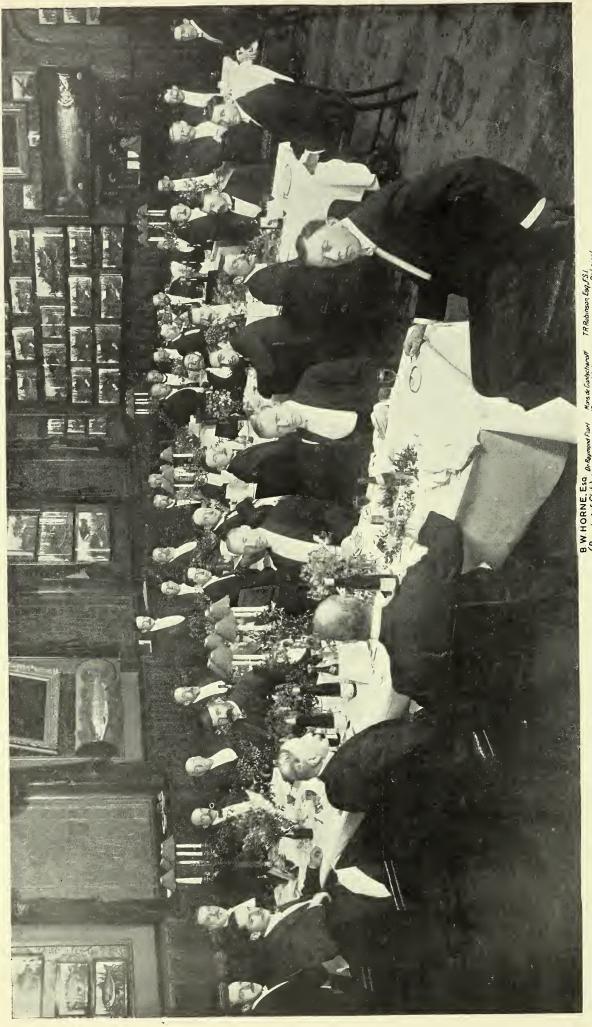
# **Historic, Archive Document**

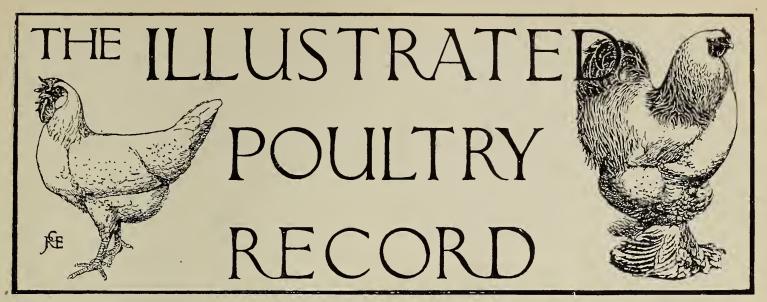
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#### DIARY OF THE MONTH.

EDITORIAL NOTICES.

Telegrams: "Vivacidad." Telephone: City, 2083.

The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs or sketches, and publication in the Illustrated Poultry Record can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor would like to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual subscription to the Illustrated Poultry Record at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to the Illustrated Poultry Record.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor.

The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

Table Poultry Club.

The announcement made that it has been decided to form an independant society charged with the task of promoting the production of table poultry, rather than uniting forces with the Utility Poultry Club, is a question for the decision of those specially concerned yet of public interest. We understand that a proposal had been made acceptable on both sides. For some reasons unexplained the course was adopted as stated above, without apparent justification. Whilst, therefore, we wish the new body every success, and fully recognise the essential necessity for giving an impetus to this branch of the industry, it is regrettable that there should be a division of forces. Unity of effort is desirable, and the evidences are that the older body would have been able to secure support, public and private, which the new society may not be able to obtain for some years to come, support requisite to the full accomplishment of its purpose. There may be reasons for taking separate action, but such are not in evidence.

#### The Value of Statistics.

We have heard criticisms passed upon the amount of space given by the POULTRY RECORD to the statistical aspect of the poultry industry. That we have been justified in doing so has had many proofs, mainly in so far as the influence thus brought to bear equally upon breeders and the general public, who require hard, concrete facts to awaken their minds to what is and what might be. The disposition of most people has been in the direction of minimising the value of poultry in this and other countries. They could not realise the truth that fowls bulk

so large in consumption and production. An interesting piece of evidence at the recent International Meetings was submitted by Mr. J. S. Gordon, B.Sc., in respect to Ireland, in his paper read at one of the few open meetings. He stated that it was not until the Irish Department of Agriculture collated first in 1904 the exports of eggs and poultry from that country that there was any realisation as to the important place which poultry occupied in the national rural economy, and that the trade done was in value greater than that of dairy produce. Such, he said, had led to a complete change of view.

#### American Possibilities.

The figures which have been recently published as to number of fowls and production of poultry and eggs in Great Britain, as well as the capacity of the country in these directions, pale into insignificance when we compare the size of our "tight little island" with that of the United States. Britain has 32,000,000 acres of cultivated land; in the States the later records reveal 850,000,000 acres of farm lands, that is, the area capable of profitable cultivation, which practically means nearly twenty-seven times the capacity of England, Scotland and Wales combined. Of these, however, half are unoccupied, and a considerable portion of the half not fully used. Should the time be reached when upon the farm lands of the Union there is an average of one hen per acre, and that the annual egg crop is equal to 80 eggs per hen, it would mean that the actual number would reach sixtyeight thousand million eggs, equal to nearly five hundred and seventy million great hundreds, or about 4,700,000 tons. Such figures are staggering, and there does not seem any danger of a famine in supplies. A large country like America has, however, problems in respect to marketing which smaller and more densely populated lands know nothing of. The capacity of a country, however, is not to be measured by its land area alone, but by its human inhabitants in relation thereto.

#### The Plucking of Geese.

At the Limerick City Sessions recently fines were imposed upon two people, one for plucking live geese and the other for permitting it to be done, which would indicate that the practice is illegal. As the penalties imposed were nominal the question should not be allowed to lie quiescent. That there is a great amount of such plucking at home and abroad is undoubted. One of the witnesses in the case referred to, stated that the practice had existed in Ireland for 800 years. That, however, is no justification for its continuance. Humanitarian ideas were not a characteristic of our forefathers. In justice

to those who are concerned in what is relatively an important trade, what is wanted is a careful enquiry into the practice. It would be worth while to appoint a departmental committee for this purpose, on which should be represented pathologists, poultrymen, and traders, empowered to investigate the question thoroughly. Should the conclusions arrived at be condemnatory of the system, as we imagine would be the case, there should be a rigid and systematic application of the law, not mere sporadic prosecutions on the part of the R.S.P.C.A. So far as our information goes, in Britain goose plucking has almost died out. In the quill pen era it was very general, but with the introduction of steel nibs a change came about. If, however, the practice is prohibited at home, what about the imports? Prohibition might lead to refusal to admit ostrich feathers, as these are plucked from living birds.

#### High Tails and Fecundity.

Breeders of the more prolific varieties of poultry well know that, both in cocks and hens, many of the specimens carry their tails very high. From an exhibition point of view that is regarded as a defect, and mating has been designedly to counteract this tendency. It is evident that in appearance the neat, compact, low tail is preferable. On the other hand, many poultrymen realise that those hens which are most fecund are generally marked by well spread, high tails, and that the more active cocks carry their caudal appendage well up. So far as we are aware, however, it has not hitherto been suggested that there is any correlation between egg production and high tails. Writing in the Reliable Poultry Journal Mr. D. E. Hale says:-

Did you ever see a fowl with a good egg record that did not, while she was making it (while she was in good condition) have a high tail? Is it not a fact that the minute a bird gets out of condition it carries its tail low? The cock o' the walk, the one full of vigour, is the one with his tail carried high. The hen that is busy, hustling, laying and doing the work is the one with the high tail.

Such may not be good literary English in expression, but is suggestive, and other breeders support the contention, which deserves further consideration and offers a field for observation. We should be glad to hear what British breeders have to say on the point. Should such be true, it means that nearly all our standards are antagonistic to the development of prolificacy.

#### Inheritance of Fecundity.

After the close of the International Poultry Meetings, Dr. Raymond Pearl was engaged for another week at the Eugenics Congress, during the course of which he read a paper under the above title, which we understand was a summary

of a bulletin to be issued at an early date embodying conclusions arrived at after careful observations made at the Maine Experiment Station. The publication will be eagerly awaited. Dr. Pearl stated that two definite conclusions had been arrived at. The first was that eggproduction or fecundity of a hen was not of itself a criterion of any value whatever from which to predict the probable egg-production of her female progeny. The second was that, notwithstanding this fact, fecundity was in some manner or other inherited in the domestic fowl, and the opinion he had been led to by his observations was that a hen transmitted her fecundity to her male progeny, and it was passed on by them to the hens of the next generation. The first of these conclusions conforms with general experience, and it is evident that trapnesting on present lines has largely failed in so far as transmission of fecundity is concerned, although it has had a powerful influence in compelling attention to relative fecundity and showing the variations of productiveness among If Dr. Pearl's second point is the same flock. correct, we are on the eve of developments which will necessitate a complete change in our methods of breeding for egg-production. Such will not be so simple as the use of highly prolific hens, and will mean prolongation of the work, but these cannot be avoided.

#### A Novel Poultry Exhibition.

Thanks to the enterprise of the *Poultry Item*, of Sellersville, Pa., U.S.A., a poultry show of a novel type has been held this summer at the famous watering-place, Atlantic City, New Jersey, and the reports to hand tell of an unqualified success. The features in which it differs from an ordinary show appear to have been (1) that it was in a theatrical auditorium on a great pier, a thousand feet out to sea, (2) that each lot of birds had a space eight feet square, with a small house of canvas as a roosting place in one corner, (3) that the inmates were kept active by the floors being covered with sand several inches deep and automatic feeders to induce exercise, (4) that above each exhibit was displayed the owner's name and address, (5) that the exhibition continued for three months. All that means expense, but the exhibitors declare themselves as abundantly satisfied, and as an advertising medium its value is undoubted, on some days as many as 40,000 paying admission to the pier. President Reese V. Hicks, who was one of the judges, says that the more natural conditions enabled visitors to study the birds just as they are in a natural state in the yards, that the impression they make is much more favourable than in the ordinary poultry shows, adding that

"the crowds stop several minutes in front of each pen, studying the birds instead of walking along hurriedly like they do at the average show."

#### Re-exports of Poultry

Whether Britain is becoming a clearing house for foreign table poultry, as for so many other products, remains to be proved. The Trade and Navigation returns for July would suggest that this is the case. In the seven months ending July 31st, the re-exports of foreign and colonial poultry was as follows:—

		£
Alive		127
Dead		78,837
To	tal	78,964

as against £68,237 in the corresponding period of 1911 and £27,102 in 1910. As the imports for the same period were:—

	£
Alive	25,347
Dead	450,107
Total	475,454

the net imports are reduced to £497,143.

#### Indian Developments.

The IndianFowl Fanciers' Journal says: "It is contemplated to have an experimental farm for each important distinct agricultural tract in India. We contend that the equipment of every such farm will be incomplete unless provision is made for a poultry department. It is unnecessary to labour the argument, for, besides the value of eggs and fowls, there is the exceptional advantage of the best manure that can be procured. Having accepted the poultry adjuncts to experimental farms, the next step of the Government will be the appointment of an expert controller and inspector with a position and independence of action similar to that enjoyed by the Veterinary Inspector-General."

#### American Poultry Increase.

Farm Poultry says that the recent census of live stock in 1910 as compared with 1900 shows "60'r per cent. increase for all kinds of live stock; 59'8 per cent. increase for domestic animals; 80'2 per cent. increase for poultry. It is unfortunate that the figures do not include poultry not on farms, for they include much other stock not on farms, and the amount of poultry not included in the returns is enormous. However, the figures do show that the production of poultry is increasing much more rapidly than that of other kinds of live stock. Beef cattle show a decrease for the ten years, a fact which seems to bear out the claim of the packers that the high cost of meat is due to a shortage."

## THE GAME FOWL OF OLD ENGLAND.

By A. T. Johnson.

WAY down in Mexico, where the date palm hangs its tired leaves in the white rays of an unsparing sun, where things too wicked for the susceptibilities of delicately-minded people are done and seen at broad noon-day, native gentlemen still go to and fro with game-cocks under their arms as they did long centuries ago. Fond of heavy potions and credit, an artful gambler and accomplished idler, but always a gentleman, our swarthy friend passes his Sunday, his Saint's day, or his fair day at the cock-pit. If the latter has lost some of the royal patronage with which it was once adorned; if stakes no longer run into six figures (in Mexican dollars) and the cocker himself is, perhaps,

not quite so picturesque a figure as once he was in the great days of a great nation, I like to think that he is no less keen on the contest. I am glad to know that, through all the chances and changes of a people's decline, that despite the long and chequered march down the lane

of years, when old customs have melted away and ancient customs been forgotten, the cocks of the game have survived They still stand undaunted at the heart of the people. The great athletic contests of Mexico, which once rivalled those of the Greeks, have passed away; the bull-fight has lost place, coyote and dog-fighting are extinct. The game-cock alone defies the passage of Time.

Now, I am aware that one need not go as far as Mexico to find cock-fighting (Allah be praised!—yet another proof of the undying nature of the sport) and I do not intend to enter here upon a dissertation in favour of "the game." One cannot be too careful these days, when the very worm and the humble house-fly have been afforded the protection of the law. But I have incidentally referred to the sport in Mexico because the representations of fighting cocks from which the accompanying photographs were taken were made by Mexican hands. The originals are entirely constructed of feather—some of them are often excellent likenesses of the varieties they are intended to represent—and when one considers that they are the work of uncultured hands—often men and women of the poorest class—I think it will be generally conceded that they are extremely

creditable. A certain conventionality lends an artistic effect, and the colour-blending in the originals is as nearly perfect as can be. Though the latter are done in the flat, by attaching feathers to a piece of white cardboard, the figures appear at a little distance to be more like lifelike miniatures of the real thing. My only regret is that the colours of the originals do not appear in these photographs. But, with the help of orthochromatic plates, I have been able to show some indication of the brilliant reds, golds and yellows which are included in the plumage.

Assuming (mark the word) that the royal game of cocking is defunct in England—and

the decadence of the nation may be said to have set in with the suppression of the game as a public exhibition—is there, one wonders, any other than an historical and "fancy" interest left in the old breed? Are we not rather too prone to look upon the blue-blooded aristocrat—this very



Sparring.

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fountain head of the poultry world—with indifference? Do we realise what a grand inheritance we have in "The English Fowl," as Buffon termed the breed, and appreciate it as we ought? The fanciers will probably answer these questions in the affirmative. And no one will do otherwise than say to them—but for whom the breed might have dwindled into extinction—"Go on and prosper." A few, alas! how few! will contend that Old English Game are the table-fowl incomparable, the one breed whose colour and symmetry are unparalleled. But one can, perhaps, count those who esteem the venerable breed from a utilitarian and æsthetic point of view on the fingers of both They are men who—as Mr. Harrison Weir was —are outside the pale of commercial poultry-keeping as we understand it now.

It has long been a wish of mine to see the Old English Fowl, with its splendid attributes and noble ancestry, more properly appreciated in its own land. The fanciers have done their part, and done it well, according to their lights; the rank and file of utilitarians have also done their part, which has been to ignore the Old English and all that pertains to it. That they have their own reasons for so doing I do not doubt, but I have yet to be convinced that, in

fineness of bone, quality of flesh—both in texture, abundance and flavour—there is another breed to equal the ancient British breed. And, without prolonging the argument further, we will let it stay at that. How can we best promote these inherent qualities of endurance, valour, beauty, and what, for want of a better term, I must call gaminess of flesh, which have sustained the pristine grandeur of the old breed throughout the ages? The suggestion is no new one, I know, but why not naturalise the breed in our woods and park-lands as a game bird, which it is in every best sense of the term. Has not, indeed, this splendid fowl given that word "game" and all that it signifies to our language? As a member of our avifauna I contend that, given the right strain as a nucleus, the Old English would settle down and, in

course of time, become as useful an asset to our coverts and rough country as the pheasant now is.

What are the arguments which are likely to be raised in objection to the naturalising of Old English as game birds? A sportsman, if he knows nothing of the breed, would probably pooh-pooh the idea on the grounds that, having largely lost its power of flight, it would be useless for purposes of sport. Beyond that I have not heard any serious objections raised in opposition to such a project. But, supposing we admit that muscular development

in England has degenerated since the suppression of cock-fighting, that these birds are less expert as fliers than their ancestors were, we have, nevertheless, every reason to suppose that a breed such as this one would rapidly regain what it had, through disuse, All poultry are quick to respond to treatment and environment; even quite slight changes in conditions of life rapidly bring about remarkable differences in health, prolificacy, stamina and other attributes. And I believe that, in a few generations, wild-bred Old English would become strong fliers. Even to-day there are strains which still possess the power of pinion enjoyed by their ancestors. I can remember seeing, when a boy, some of the surplus pullets and cockerels of a flock of old black-reds being shot for table purposes—that

being the only way they could be secured. These birds would fly—"skimming" like pheasants—from their roosting trees in the morning directly to the stubble, nearly a quarter of a mile away. All of us who are familiar with Mr. Lewis Wright's works will recollect his reference to a cock of "about  $4\frac{1}{2}$  lbs. which flew from Lower Langdon to Higher Langdon Farm (half a mile) and there killed the master bird of that farm." Again he writes: "Mr. John Harris, of Liskeard, has told me that years ago, when the late Colonel Trevor Dicken (who wrote largely on the subject forty years ago, under the nom de plume of 'Newmarket') came to see him, he called over a hundred cockerels, then running with an old cock, and they came flying over the trees like a flock of rooks.'

Indeed, anyone who has any practical know-

ledge of this fine old race of poultry will be ready to testify to its power of flight, and also, I think, to back me up when I say that that attribute would, under proper conditions, develop naturally. With a change to a more natural life the weight of the birds would slightly decrease. They would grow harder, more compact and intrinsically game-like. Inbreeding, when in a wild state, would have but little, if any, deleterious effect upon the race. Polygamy, and the survival of the fittest would look after that. Nature inbreeds continuously, and



For Death or Glory.

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her results are infinitely superior to ours who fight consanguinity like sin. But—let me not be misunderstood—that is not because Nature is right and we are wrong, but because we have fashioned our methods on principles which are artificial.

When I was breeding Anconas a number of these birds took to a semi-wild life in the woods and fields which surrounded the place. But space will not allow me to do more than say here that they were of the old original type (neither Black Minorcas with white spots nor White Leghorns with black ones), rather small, very wild, splashed rather than mottled, and tremenduous fliers. Indeed, it was mainly because nothing would keep them within bounds that I made a virtue of a necessity and studied them—at a distance—with the other fowls of the air. The pullets of this strain

would fly across a five-acre field with the greatest ease. Both sexes would crouch in the grass like pheasants. They were very secretive in habits, shy and restive. Close confinement they could not stand. The cockerels were exceedingly pugnacious—much more so than those of any other Mediterranean breed. A raw cross would in them produce a large preponderance of chickens which developed the familiar gold and red hackle of game fowls (or of Gallus Bankiva) and these colours were always accompanied by a diminution of white areas and an increase of black, or rather green, with an intensified gloss. It would not only accentuate the wild instincts noted above but even produce birds that laid faintly tinted, smooth-shelled eggs quite unlike those of any other non-sitter. The incubating habit became strongly reinstated in many of the hens, who made splendid mothers, rearing their own breeds unaided.

From the above observations and many others I was led to suppose that those old

Anconas were more nearly allied to the primeval fowl than are most other breeds game excepted. And when we call to mind the fact that game fowls were known in Italy during the days of Rome's greatness, it is not, I think, unreasonable to conclude that the genuine old type Ancona—now too rare —has a very strong infusion of game blood in its constitution, if,

indeed, it be not directly descended from that source.

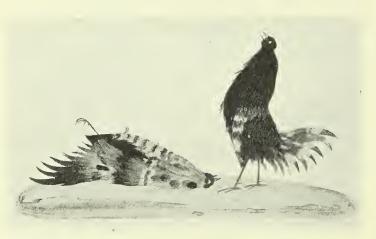
The original Ancona and Old English—whether they were, at one time, one and the same or not—are now far enough removed to bring about reversion in their progeny. And that reversion would undoubtedly be towards a game fowl of earlier type rather than our present specimens. It would tend to produce a fowl in which the latent, primitive instincts would be re-awakened to an extent unseen in the wildest of our domesticated breeds—a fowl eminently adapted to a wild, woodland life.

Now, I think I have gone far enough to enable the patient reader to grasp the main outline of the suggestion contained in this article. It may be that Old English have already been naturalised by some devotee of the breed.

If so, it would be interesting to have some observations on the subject. On the other hand, I feel, and feel strongly, that the project is one that might be seriously undertaken by many who have the interest of this splendid breed at heart, and who have sufficient land and leisure to enable them to afford the scheme a fair chance. To some it may appear rather ignominious to first naturalise this fowl and then to shoot it. But I do not think that argument worth refuting. To be shot is better than to have the neck wrung, and the noblest creatures of the wild woods are to-day the honoured prey Let us have our standards of of kings. perfection and our exhibition specimens by all means. But the one place wherein the splendour, the valour, the endurance and all those indomitable qualities which the monarch of the poultry world has ever possessed can be maintained and perpetuated is the wild freedom of English woods.

I think we, as a nation, are too apt to forget the fact that the Old English Game has played

its part, and a great part, in the making of the Empire. We do not always realise that, even though the cockfight may have had its brutal side, it inspired courage and valour in us as it did in the young warriors of Cæsar. We lose sight of the impelling fact that it was in the cock-pit of the "Victory," at the greatest moment of triumph our nation has ever



The Song of Triumph.

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known, that Horatio Nelson died.

#### Importers' Ill Luck.

Importers of live fowl in distant countries have to run considerable risks. The Melbourne Weekly Times says: Ill fortune seems to attend all the recent importations of poultry from America. Mr. T. H. Grant only landed one live bird out of eight; and Messrs. Hewitt and Co. have just received advice that a White Leghorn cockerel shipped to them by a leading American breeder died on the trip out. As the bird was purchased at a very high figure the loss is serious. The importers, however, have cabled to America for another bird.

#### Sicilian Buttercups.

This is one of the latest breeds in America, said to have been imported direct from Sicily, in which case it will be another for which we are indebted to Italy.

## THAT 200-EGG HEN.

[THE JACK-O-LANTERN OF POULTRYMEN.]

By Edward Brown, F.L.S.

SINCE the prolificacy of our domesticated hen has been regarded as important, which probably extends over a much longer period than is commonly supposed, this question has received attention. The advent of phenomenal layers has been recorded even as far back as the days of Columella two thousand years ago. Modern breeders can claim no virtue on that score. would appear that what is taking place in the twentieth century is but a repetition of events which have marked every generation far back before the commencement of the Christian Era. I do not say this to discourage breeders in their efforts to increase the productiveness of their fowls, to raise the standard of the greater number, and to discover, if that be possible, what are the influences which make for enhancement of returns, for it is evident that upon these will depend to a considerable extent future developments, and in part that growth of the poultry industry for which we are striving. My reason for again submitting considerations respecting this question is that it would appear those methods which many of us thought were helping towards a solution of the question have failed to accomplish the object in view. It is difficult, however reluctant we may be to do so, to come to any other conclusion than that we are very little, if any, further forward than were our predecessors. The main difference arises from the fact that with the conduct of poultry-keeping to a greater extent on industrial lines and the growth of breeding for sale of stock records are kept to a degree unknown previously. That, *bro rata* to the total number of hens kept, the number of heavy layers is greater to-day than fifty or a hundred years ago we have no reliable data to show. On the other hand, it is scarcely questionable that the average productiveness of our fowls in respect to eggs has advanced to a considerable extent within the past two or three decades. Such would appear, however, to be mainly due to the introduction of new breeds and to the realisation of the fact that age has an important influence in this direction.

Some months ago an attempt was made to indicate some of the considerations leading to conclusions that to succeed we must revise our views on this question. I endeavoured to show ("Breed, Strain & Environment," *Poultry Record*, January, 1912, page 150,) that the statement "Good laying is a question of strain and not of breed," whilst favourable to the interests of

breeders of stock birds for sale, cannot be justified, much less proved. The purpose I had in view has not been attained. What was sought for has not been forthcoming—namely, definite records of the progeny of abnormal laying hens, not in a few exceptional cases but as a whole. One private correspondent states that birds from a famous family of Australian White Leghorns have proved remarkable layers over here. That was to be expected. The change of conditions has contributed thereto. But as "one swallow does not make a summer," so we must wait to see the results in a succession of years and over the entire body of descendants, kept under reasonably good conditions. The fact is, whilst such strains may and do produce a higher average that common fowls, the number of those which fall below the general standard is very great.

Lest there should be doubt as to prevalence of the abnormal layers long ago, four instances may be cited. These quotations are restricted to a very short period in the early years of last halfcentury. They could be multiplied were that at all necessary.

The first is taken from Messrs. Winfield and Johnson's "Poultry Book," published in 1853, in which, as one of several instances given as to the laying of the Shanghai, it is stated (page 60):

A pullet of 1851 from Mr. Punchard's stock, was sold when about six months old to a gentleman, and on the day following her arrival at her new house, her dark buff egg was duly deposited in the nest. She continued to lay daily, till, in 96 days, she laid 95 eggs. in 20 more days she laid 10 more eggs; making in all 105 eggs in 116 days. She then sat and reared an early brood.

The second and third are obtained from the Cottage Gardener. In the issue of January 1st, 1852, is given a list of eggs produced on the farm of Mr. Punchard, of Haverhill, Suffolk, showing that from 35 Cochin China hens, from Christmas, 1850, to December 6th, 1851, were produced 5,446 eggs, an average of 155.57, and there were nineteen days to complete the year. It is stated some of the pullets had commenced laying, so that it is probable the actual average was not so high as recorded. However, the result is noteworthy.

Even more remarkable are results given in the same publication, June 23rd, 1853. One Cochin pullet, owned by Mr. G. W. Johnson, of Winchester, began laying on December 15th, 1852, and by June 16th, 1853, or 183 days, she had

produced 163 eggs. Of two others, the property of Mr. W. H. Snell, of Norwood, one began to lay November 27th, 1852, and by June 13th, 1853, or 199 days, had laid 174 eggs; and the other beginning on December 30th, 1852, by June 13th, 1853, or 166 days, had produced 137 eggs.

Here are four instances of sixty years ago, all relating to a breed which no one now thinks of keeping for egg-production, which equal any modern records. Three are individual records, the fourth is of a flock of 35 birds. It is well to remember, however, that the breed had been recently introduced from Asia into this country. Evidently the change of habitat was highly stimulative, and to that we are compelled to attribute the remarkable prolificacy of these birds. When the Plymouth Rock was first brought to Britain more than thirty years ago many breeders found the hens to be remarkable layers, doubtless from the same cause. But such has not been maintained in either case. With full acclimatisation to the new conditions the abnormal period passed.

What this would suggest, although upon that point it would be undesirable to dogmatise, is that the high records attained in British and other laying competitions finds its explanation to some extent in the fact that the new conditions and environment are a special stimulus to some of the birds, and that, on the contrary, the reverse influence is exerted with such as occupy the lowest positions in the scale. As we may assume that all the competing birds received the same care, treatment and food, and that the owners would not enter them unless they were progeny of good laying hens, such may explain what has puzzled everyone who has studied the records of these contests. It is not breed or strain but environment, acting upon tendencies of which we know practically nothing. That opens a question of vast importance, but which cannot now be adequently discussed.

Suffice it is to say that if there is anything in this the poultry-keeper who desires to maintain a high average of egg-production in his fowls must depend more upon purchases than his own stock, or that, in the case of a farmer, he must select as run for his laying birds soil that is as totally different as possible from that whereon they were bred and reared. There is no certainty, however. The effect is as likely to bring about a decline as an increase in production. He must be willing to take the risk until we know a great deal more than at present.

Hence it will be evident that the obsession which has filled the minds of poultry-keepers during recent years as to that 200 Egg Hen, by no means so exceptional as had been supposed, has been a "Jack-o-Lantern," a "Will-o'-the-Wisp," an *ignis fatuus*, and has led breeders

astray. Progression is secured by unlearning as well as learning. Ours has been thus far the former. We must now strive towards the latter. It is not altogether pleasant to think we have been following a mirage, but such cannot be helped. Perhaps Mendelism is the next phase of credulity in relation to poultry-breeding. That remains to be seen. It is not what advocates and devotees believe, but what can be proved in actual practice. As Mr. J. H. Robinson states in his recently published book: "To be of direct use to the mass of poultry-breeders the facts of Mendelism must be demonstrated with pure-bred poultry and the laws stated for direct application in the breeding of pure races." Such is not yet evident.

Whilst, therefore, individual hens producing 200 eggs and more during their first year of laying are not, and have never been, rare, attainment of such an average over a large flock is apparently as far off as ever. Now and again something like that standard is reached for a year or two. It cannot be maintained. Fifteen years ago Mr. A. F. Hunter told me of a breeder of White Wyandottes who had advanced to an average of 187 eggs, I think, with 300 pullets, but I have heard nothing of it recently. expressed previously, my contention is that to force production to this extent is disastrous, leading to weakness and degeneracy. It is too big a leap from the normal, which has to be paid for. The rebound of the spring cannot be long delayed. The fact is no 200-egg strain of fowls exists, and to advertise such is misleading. If breeders would frankly state how many hens have reached that point, and what are the records of all the others, they would be justified, not otherwise. Buyers would then know what to expect. It is like the old chestnut about "Snakes in Ireland," said to have been published in a work on Natural History, in which the statement was made, "there are no snakes in Ireland." And from all the evidence obtainable, "there is no 200-egg breed or strain." Whether there ever will be is not for me to say. I hope it may be realised and wish success to everyone attempting it.

In this connection it may be permissbile to point out that, looking at the question from the point of view of producers and not that of the vendor-breeder, the 200-egg hen question is of lesser importance than is generally supposed. Success in the poultry industry will be determined by the normal, not the abnormal. The presence in a flock of a few exceptional layers, unless they can transmit this prolificacy to their progeny, which apparently they do not, is of very small moment. Supposing a farmer has a flock of 200 hens, and the average of 190 is 130 eggs per annum, whilst the remaining 10

attain the 200-egg standard, the total increase will be 700 eggs in the twelve months, which is a modest gain. The total average is thus 135.5, that is, a gain of  $3\frac{1}{2}$  eggs per hen. Could that be continued and increased such would be beneficial. My point is that in all probability if he is led to depend mainly upon these few abnormal layers for breeding, the chances are strongly in favour of a reaction which will considerably reduce the total average. I am sorry to feel compelled to say this, but the truth has been forced home against my ideals and wishes. Reverting to the gain by these abnormal layers, it would only mean three per cent. increase. Whether it is worth that must be determined by each poultry-keeper. My belief is that he would gain much more if he could

We have to learn that what may be permissible in one is undesirable, and possibly fatal, in the other. The basal principles of breeding may be the same, but the application must be totally different. The fancier to secure that perfection which is his ideal may find it most profitable to sail as near the wind as possible; the practical man cannot do this with safety.

There is one further point which, although not directly connected with the subject under consideration, may be mentioned—namely, the amount of food consumed by the various races of fowls. That must always be measured in respect to the total output. We have seen that some Cochins were wonderful layers as far back as sixty years ago. Even then I question whether they were profitable from the fact that



A late-hatched clutch of 18 light Sussex and Faverolles chickens. This is an excellent cross for table purposes, the chickens growing quickly and possessing flesh of first-rate colour, flavour, and texture.

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find out those hens laying 140 or even 150 eggs per annum, using these as stock, and discarding the producers of 200 each. Again it must be reiterated that success will be determined by the normal, not the abnormal. Only too long has the exceptional 200-egg hen been permitted to lure us from the path of safety and true progression. The man who breaks the record in certain forms of athletics generally breaks himself.

One danger is ever present with us. The British poultry industry was evolved from fancy breeding. Some of those, including the writer, who have shared in developing the utility side were nurtured in exhibition ideals and theories, which have often led us astray.

they were such heavy eaters. One of this breed will consume three times as much as a Leghorn and twice as much as a Plymouth Rock. Therefore, if the number of eggs laid were equal, what would be an excellent margin in one case would disappear in the other. Such a question as this has never received adequate consideration, but should always be regarded in endeavouring to approximate the relative values of the different breeds. That, also, brings up again the subject of size of body, which has recently been discussed, and to which nothing need be added at the present time. This point is worth careful and exhaustive observation on the part of those engaged in experimental work, though probably of lesser importance where birds are at liberty than if they are kept in confinement.

## THE VAGARIES OF EGG AND POULTRY IMPORTS.

By "STATISTICIAN."

STRIKES and national disasters leave their effect upon consumption and, therefore, upon trade. The year 1912 has been marked by unrest on all sides. In addition thereto, variations in production, upsetting calculations based upon previous experience, have marked the past

ups and downs are considerable. Only in nine weeks out of the twenty-six have the weekly importations been greater in the current year than were received in the corresponding weeks of 1911. The lowest week of 1912 was that ending February 24th, when the total quantities



Diagram 1.—Imports of Eggs in Quantities for each week from January to June, 1911 & 1912.

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months. As a result home poultry-keepers and importers have experienced a difficult season. Such was especially the case in February, when the home supplies of eggs were phenomenally low, and not compensated by increases from abroad.

In order to show the comparisons between 1911 and 1912, I have prepared two diagrams, indicating the imports each week for the first six months of each year of (i) quantities of eggs and (ii) values of poultry, as revealed in the returns issued by the Statistical Office of His Majesty's Custom House.

From the former of these it will be seen that whilst there is a fair amount of uniformity, the

received were 147,027 great hundreds, and the highest the week ending June 29th, when 552,624 great hundreds were landed. The figures indicate that June in both years was the month when by far the largest quantities of eggs were imported. Taking the gross totals, I find that the imports for six months were as follows:—

1911 - - - 8,569,492 great hundreds 1912 - - - 8,073,233 ,, ,,

decrease 496,259 ,, ,, which is equal to about 4,150 tons. The reduc-

tion in values is only £31,855, so that the relative price has advanced considerably.

From Diagram II it will be evident that the variations in poultry imports is very much greater in 1911 than in 1912, when they were fairly regular. The highest in the first-named year was March 16th (£65,684), with May 11th (£61,669) a good second, whilst the lowest was

#### Jungle Fowl in Scotland.

The Scotsman states that Mr. J. E. Kerr, of Harviestoun Castle, Dollar, the well-known Clydesdale horse and cattle breeder, made some interesting experiments in endeavouring to introduce the jungle fowl into Scottish preserves, but they were attended with but indifferent success. The hens seemed to have very little idea of making a nest of



Diagram 2.—Imports of Poultry in Values for each week from January to June, 1911 & 1912.

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March 9th (£1,558). In that case there was no coal strike to afford an explanation. In 1912 the highest week was January 20th (£44,644), and a general decline from March 9th to the end of June. The gross totals for the two periods of six months are as under—

1911	-		-	£609,097
1912	-	-	-	465,530

£143,567 such is a reduction in the current year of 23.57 per cent.

The records here given speak for themselves, and it is unnecessary to enlarge upon them.

#### The Shape of Indian Runner Ducks.

At the recent International Meetings Professor Beeck, of Crollwitz, Germany, described the Indian Runner as now bred to be like a Rhine wine bottle on legs.

any kind amidst their new surroundings, and laid their eggs about in a very careless manner. These eggs, however, were collected and proved very fertile, being hatched out by the aid of incubators. Jungle fowls, however, proved but poor sport as game, as they kept religiously to the ground; they seldom rose on the wing, and eventually they were allowed gradually to die out.

#### Petaluma Eggs.

It is stated that during the last week of May, 1912, a total of 3,058,128 eggs were despatched from this Californian centre, and that the total shipments for the month amounted to 1,119,456 dozens, or 13,433,472 eggs.

#### Dutch Ducks

Around Landsmeer, near Amsterdam, Holland, duck raising appears to be carried out on extensive lines, and is a profitable business, records Mr. A. O. Schilling, in an interesting article appearing in the American Poultry World.

## PERSONAL LETTERS FROM AN OLD FANCIER.\*

VI.—TO A SPECIALIST POULTRY-BREEDER.

Dear Mr. Gildersome,—I have been watching with considerable interest the efforts which are being put forth to popularise your last love among the breeds of poultry. It was a pleasure recently to be entrusted with the judging of a strong class at one of the early summer shows. That gave me an opportunity of carefully examining what may be regarded as the best examples at present forthcoming, and of finding out something as to the lines upon which breeders are proceeding.

So far as I could discern, you are upon right lines, and if selection is within well-defined limits this addition to our breeds should be acceptable, giving at once plenty of scope for the work of fanciers, and at the same time maintaining those food qualities which have made it a favourite in its native land. It was noticeable, however, that one or two exhibitors are disposed to get off the track, to introduce new features, some of which would totally alter That is undesirable, and would do more harm than good. Such should be strenuously resisted. Only one of these need be named, that is, size of body. As an old judge, knowing how great is the temptation to give bulk more points than it ought to have, I speak with some confidence. Several varieties have been injured, if not ruined, in this way. So long as I have any influence it will be my desire to resist that If judges would only do this, exhibitors would be less liable to transgress. The bigger things are not always the better. "Good stuff goes into small bundles."

However, my purpose is not to write upon details of this kind, which may be left to those immediately concerned. Nor do I suggest that you should be fettered by the ideals of others or the natural evolution of other countries. When a breed is introduced it would be folly not to give play to the influences of new conditions or to bind breeders to adopt the same lines as those followed in the place of origin. Had that plan been general there would have been very little improvement. Our business has been and is to make better that which comes to us, and not slavishly follow what is adopted elsewhere. We do not want to be like the boy who went to the barber's and, when asked how he would like his hair cut, replied "Like Farver's, with a hole in the middle.

On the other hand, to change without reason is a mistake, and there are those who do that, with the result that some of the best breeds introduced during my career have been utterly spoiled. The good that was in them was Points have been added which discarded. destroyed their identity or value, and lines of breeding followed that led to the growth of abnormal features neither of use nor beauty. You know that I admire good specimens of any breed, and have always been ready to welcome new aspirants for popular favour, believing that such are necessary to progress. The first show at which I ever judged contained nearly a hundred specimens of one breed. Now, if any are seen, which is but seldom the case, there are only one or two in that resort of fossilised poultry—the any other variety class. It was ruined as to appearance and practical value by extremists, who carried their pet fads to that length. Of those breeds popular forty years ago only a few retain even a decent place in our shows. It was not the breeds, but the breeders, that were at fault.

It has been said that "Imagination is an advanced perception of truth." I could not but see, as you and others have, how much may be accomplished with this new breed—new, that is, to us. But it has yet to be done. Those who have fallen in love with it are sounding its praises everywhere and everyhow. never was such a breed, if all one hears were true. We all go through that stage. Like a young fellow when he is caught in Cupid's meshes, the sense of balance is totally lost. There never was a girl so beautiful; she is perfect in feature and in form, and in spirit. There are no shadows in that picture. As to faults, she has none. The very mention of them is a libel. Poor chap! It has to be. He is like a fond mother, who looks on her children's faults with her eyes shut. Yet truth will out. So with the advocates of this new breed. It is wonderful for beauty, the best layer, the finest in its meat of any that ever was seen. As to others, these are not fit to be mentioned in the same breath. All that has been heard before. If some of the things which have been stated were but half true, such varieties are fit for Paradise, if they did not come from thence. Yet we can always find something that might be different. Perfection has to be realised as well as imagined.

One old fancier—a lady—so idealised her pets that if anyone dared to suggest they were not quite as good as might be, such was regarded

<sup>\*</sup> The previous letters have been: No. I., "To a Young Judge," March, 1912; No. II., "To a Show Secretary," April, 1912; No. III., "To a Lady Poultry Farmer," May, 1912; No. IV., "To a Disappointed Exhibitor," June, 1912; No. V., "To a Country Poultry Instructor," July, 1912. The next will be addressed "To a "Poultryphobe Agriculturalist," and appear in our October issue.—Editor.

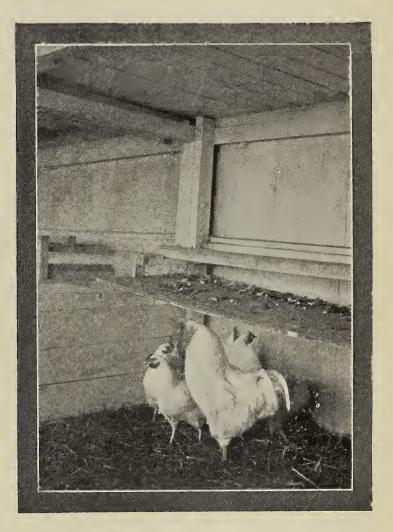
September, 1912.

Remember that every breed has to go through the mill and to show that it is worthy. To use a common expression, "the proof of the pudding is in the eating." The poultry fancy is essentially a democracy. Specialist breeders and utilitarians alike have tried to create a privileged class, a mediatised series of families, a sort of upper ten, but in vain. There is no aristocracy among cocks and hens. Every breed or variety must stand or fall on its own merits. The laws of entail and of succession do not rule in this case. For that reason it is all-important to conserve those qualities which are necessary to its general popularity.

I have been trying of late to remember how many new breeds and varieties have made their début in my time, but could not do so. Some of these were heralded as if they were perfection. In a few cases they had a temporary reign. Like a Peruvian President, they strutted on the stage for a short period and then passed into oblivion. It is not too much to say that ninety per cent. have gone, never to return.

A breed is seldom the result of chance, or of a fortunate combination of other influences, if it has any permanency. It has to be carefully and slowly built up on a sound foundation, in which every stone must be well laid. And, what is more, if it could be created complete at first there would be nothing for breeders to do. You will have many disappointments. Success is ever elusive. When appearances are that it is within your grasp, unsuspected influences exert themselves. It is like climbing a mountain. From below the summit appears quite near, but when that point is reached you find there are depressions to be crossed and precipices to be scaled ere the top is attained. But with wise judgment and determination you may do that.

"Make haste slowly" should be your motto and practice, for the two do not always run together. How many of the new breeds and varieties referred to have failed by reason of the folly of breeders cannot be stated, but there have been many such. You cannot hurry in this work. An old friend, long passed over to the great majority, took nine years to produce a breed for which he was striving, and then he was only at the beginning. It is permanent because he was not in a hurry. Overdoing it is dangerous in an older variety, but there is a large recuperative force. In a new combination it is fatal. Yet we find those who appear to think that they can do in a year or two what



The dropping board is a very favourite feature in ninety-nine out of every hundred American poultry houses. A good example is shown above. The advantages of such a dropping board are that it keeps the litter clean and the dung can be collected in an unadulterated form.

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requires as many decades, if not generations. They attempt too much, repeating the old story of "Killing the goose that lays the golden eggs" by their—shall I say?—greed. This is largely for trade purposes. They overreach themselves.

Somewhere I have read a tale which illustrates my point. A little boy went to school one day without his brother, who had always previously accompanied him. "Where's

Johnny?" asked the teacher. "Please, sir, there ain't any Johnny now," replied the boy "What do you mean?" asked the teacher. "Please, sir," was the answer, "Johnny and me were trying which could lean the farthest out of the attic window, and Johnny won." There is a limit to what you can do. Further, what may be possible in regular steps is often impossible in big jumps. Hunters often drop into the stream in their eagerness. There are no short cuts in poultry-breeding.

The work you have undertaken will be the test of your skillas well as of your patience and knowledge. It is there where so many break down. Not alone are they unwilling to wait and strive for the result of their labours, but they have not the requisite ability to accomplish the object in view. Only a few possess the combination of virtues necessary to the realisation of success. Whether that is the case with you remains to be seen. In every generation the number of men-for no woman, to my knowledge, has ever come into this category, perhaps they have never tried to enter—who can fairly be termed great breeders is very small indeed. Over a long course of years I have only known about half a dozen who deserved such a designation, though many more came within sight. As each generation only produces one or two great statesmen, or warriors, or painters, so is it in our pursuit.

It is always difficult to judge one's fellows, but so far as I can perceive there is no breeder to-day worthy of a niche in the Pantheon of poultrymen. Therefore, at the top is plenty of room. Such position is worth a struggle. It needs long views, striving for the ultimate, and forgetfulness of immediate gain. To that end knowledge is of supreme importance—that is, knowledge of what forces are at work, how to apply and control these. That reminds me of a workman in charge of an intricate and delicate machine who quarrelled with his employer and was discharged. Everything went wrong. No one else appeared capable of getting the machine to fulfil its purpose, and finally it stuck. After many vain attempts, the employer pocketed his pride and sent for his old employee, asking him to come and put it right. He did so. After examining it he gave a few taps here and there and it operated smooth and well. Asked his charge, he stated it was a professional matter and would send in his account. He did so for The employer was indignant, ten guineas. and replied that 10s. would be an ample payment for the time occupied, and that all he had done was to give a few taps. The bill came back again as follows: "To time occupied in tapping the machine, 10s." and "To knowing

where to tap, £10." He got his money. You must know where as well as when.

One great point which has to be considered is, what are the improvements for which you are striving? That there is plenty of scope cannot be doubted. Good though this breed may be, it might be better, more especially in what may be regarded as its fancy features. The fact that there is so much diversity in the chickens bred shows irregularity in the breeding. You cannot expect that the youngsters will come absolutely uniform, but there should be within given limits resemblances in type. Such is not now the case.

The point I would urge upon you is to keep down the special points or features as low as possible, never adding thereto without good reason. It is not so much the addition to your difficulties in breeding by multiplying the pecularities and particularities which make it distinctive as that frequently you counteract one by the other, and probably destroy the whole. The wise plan is to accept the breed as it stands, seeking to improve it within the same lines as it has been evolved. If it has a red lobe, why try for a white one? If it has a black tail, do not eliminate, but improve, and soon.

Above all, strive for nothing that will tend to weakened constitution or to destroy the good qualities which will commend it to the great majority of poultry-keepers who are non-fanciers. The maddest of all madnesses which afflict breeders of some varieties to-day is the attempt to turn white plumaged fowls into albinos. That is seeking for trouble. I shall watch for the speedy evil results, protesting meanwhile against such folly in every way. The albino is one of Nature's freaks, doomed to a speedy extinction, and meanwhile incapable of serving any good purpose. Poultry freaks may be interesting, though practically valueless.

There are people with a mental twist who find the greatest beauty in the abnormal, which often means the deformal. Beauty is said to be only skin deep, but that is a very relative term. The thick lips of the Mid-Africander have doubtless a charm to the Congolese men and maidens, whether as indicative of a greater osculatory capacity I do not know, but are objectionable to the Circassian. What we should ever remember is the standard of beauty adopted within our own radius, and work to that end. But in excess it is often harmful. You know that I always give full weight to Yet even that may be overdone. Some of the most brilliant lined specimens are useless as breeders. Excess has demanded its penalty, as it always does.

We have to regard the basal object for which the breed is kept. "Only absence of feathers make for grace in a goose," someone has said, and although I am not prepared to accept such a dictum, for even the genus anser has its special virtues, yet we must not forget that the consumers of eggs and chickens are wholly unconcerned respecting the sheen of the birds' plumage. If in the mass of any breed striving after what is merely beautiful either influences adversely the number of eggs laid or the abundance of flesh on the body, the final loss is very great. There is no need to do that. Maintenance and even improvement of productiveness are compatible with advance in feather. Not, however, unless we adopt right methods, or if we upset the apple cart by turning the corner too quickly. An Irish outside-car driver is not in it with some poultrybreeders. He may run on one wheel in his gyrations, but he manages to keep upright. They go over.

In another direction I would repeat "Make haste slowly"—namely, as to mating your birds. With a new breed there can be little experience as a guide. You do not know what changes will take place after the first moult, and probably these will be greater than you antici-Leave the birds to attain their full maturity before they are used for stock. Then you should be better able to appreciate their value. The plan of showing specimens hard all through the autumn and winter, and then mating them up, all before they are a year old, is foolish in the extreme. Remember it is these little things that count. "There is no hair so small but casts its shadow." What may appear of minor importance to you often proves to be supreme in its influence. The majority of failures arise from over-pressure. It will pay much better in the long run for you to reserve your best cockerels and pullets during the They will give you better yearling stage. results afterwards so far as their chickens are concerned. Moreover, you will not have a lot of debilitated youngsters. These are generally the offspring of immature parents. In all your operations aim high but shoot low. Risks must sometimes be run. The path of safety is the right road to success.

Perhaps you will permit me to say a word or two as to advertising and advertisers. Mark Twain said in one of his works "When in doubt tell the truth." That is a very two-edged axiom, subtle in its cynicism. Better would it be if all advertisers were in doubt. I have been reading some statements lately respecting new breeds which would have been unwarranted had these been applied to older varieties, those that are the proved standbacks of our pursuit, but which in the cases named were totally unjustified and misleading. It is not suggested

that there is deliberate and designed deceit, for the fact often is that the advertisers are deceived themselves by their own imagination. That does not matter. A man has a perfect right to befool himself if he thinks fit. The moment he attempts to befool others for money, whether consciously or otherwise, then he is qualifying for the police court.

A Course of Study on the Ethics of Advertising might be taken up by the London School of Economics with advantage, and one subject should be based on Poultry Advertisements. Sometimes the truth itself is directly misleading. One instance will suffice. An exhibitor who scarcely ever could get into the money, happened at a little country show to gain a cup simply from the reason that he gave it himself and had no competitors. His own birds were the only ones entered. Yet from that time forth in circulars and newspaper columns his stock was advertised as of cup strain. It was true, but the deceit was there all the same.

The term strain is so much misused that it has now no real meaning or value. To keep fowls for two or three years and mix the blood of several stocks does not create a family or strain. The individuality of the owner must be expressed in distinctiveness ere such a term can rightly be applied. One point may here be pressed home—namely, if a hen wins a prize, is the owner justified in selling eggs or stock as from a prize flock? My reply to that is most emphatically "No, unless the buyer is made fully acquainted with the facts." Many years ago I had to find solution for the problem. The first cup I ever won was for a cock and hen. Never mind the breed. Demands for hatching eggs showered upon me, and at high prices. Five other hens were mated with the cock bird, therefore four-fifths of these were probably not from the victorious hen. But all were influenced by the same sire, and, therefore, I felt justified in using that term.

May you succeed is my earnest wish. Some of our breeds are showing signs of exhaustion and degeneracy. Their day is passing. We want others to take their places. Whether that which you have taken up so ardently depends in part upon its merits and qualities, but, even more, on how it is handled by breeders like yourself. Such is the hope of

Yours discoursively, ENOS MALPAS.

P.S.—If you blunder expect no mercy. The eyes of many are on you, some kindly, others critically. Never mind the money-making at present. That will come. Be true to yourself. You have doubtless heard of the tombstone erected by a widow of parts, upon which were the words, "Rest in Peace—Until we meet again."

## THE POULTRY INDUSTRY IN SOUTH AUSTRALIA.

By Major Norton, D.S.O.

NTIL I had the pleasure of attending the recent Conference of Poultry Investigators and Instructors, I did not realise how far we in South Australia were behind other countries in recognising the im-

portance of the poultry industry from a commercial standpoint. The natural advantages, owing to the climate and nature of the country and comparative absence of disease, makes practically the whole of the southern part of Australia an ideal place for poultry-breeding; and it is when one considers this feature, together with the place the poultry industry takes in other countries that have not the same natural conditions, that one wonders why it is the Australian producer has, apparently, neglected to take full advantage of what Nature has provided. Up to within the last decade the reason was not far to look for.

In 1904, the production of eggs was so far in excess of the requirements of the Commonwealth that prices in Adelaide (the dominating centre of the egg industry in Australia) were so low that a further increase would have been an unprofitable proposition. At the period to which I refer it was believed that it was impossible to find a market for eggs outside the Commonwealth. This impression, however, was dispelled in 1906, when the Government took the matter up and sent a trial shipment of eggs to London. The result of the trial shipment of eggs was so successful that it became an established fact that South Australia was no longer dependent on the Commonwealth markets, and accordingly they might go on producing without any fear of what so often happened in the past—an over-supply.

With the advent of this fresh outlet for surplus stocks it was fully expected that the poultry industry would become one of the leading industries of the State. So far, however, this expectation has not been realised. Here again, the reason is not far to look for. Poultry farming in South Australia as a living is practically unknown. A very large proportion of eggs are produced on the farms as quite a side-line to the ordinary business. It is also to be considered that the average farm in Australia is quite different to the average farm in England, or any of the Continental countries. The general wave of prosperity during recent years—in fact, ever since the year when the trial shipment was sent to England (1906)—has led to the neglect of poultry-breeding by farmers. Money has been made by means much more congenial than the worry of poultry-keeping. Time must come when the importance of the poultry industry and its possibilities in Australia will appeal to the farmers much more than has been the case in the past.

GRADING EGGS.

At one time eggs were sold in Adelaide at per dozen, irrespective of size. During the last few years, however, a very great improvement has taken place in regard to the methods of marketing. Many of the leading establishments have realised the importance of grading eggs, and accordingly there is now some encouragement to the farmer to produce eggs not less than 2 ounces; so that a much better price is paid for the larger eggs than for the small ones.

The advantage that unfertile eggs have over the fertile for edible purposes is also being recognised, and the time is not far distant when this point will be a leading feature in the commercial side of the industry.

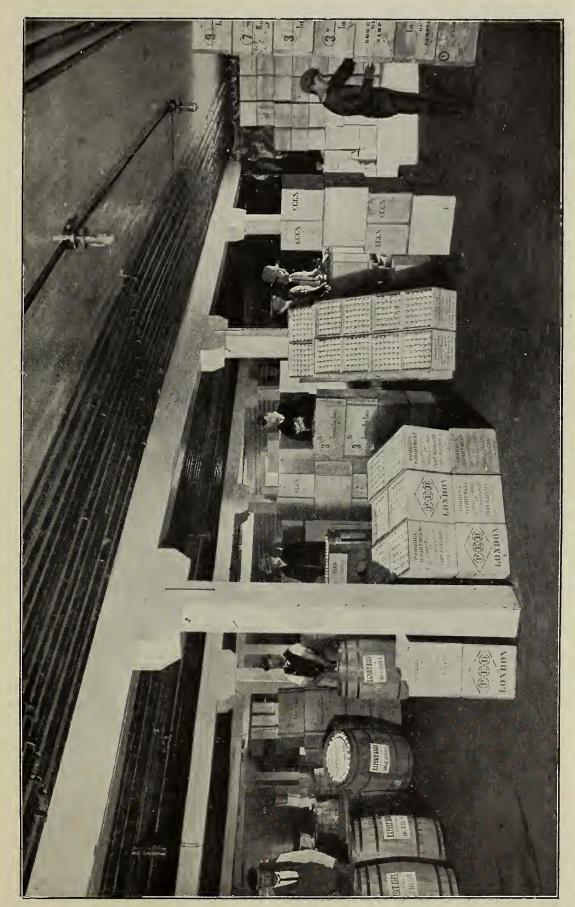
Recognising the vast possibilities there are in South Australia for the advancement of the poultry industry, the Government, by practical assistance, is giving it every possible encouragement.

In connection with the Department of Agriculture, there is a chief poultry expert who has a very competent staff of assistants under his control, whose duty it is to impart instruction, both theoretical and practical, to any desirous of wishing to improve their knowledge in poultry-keeping. There are six experimental farms situated in different parts of the State, all conducted on scientific lines. At these depots farmers are able to purchase reliable stock at reasonable prices and also obtain any advice they may require in regard to the breeding, feeding, etc.

While, as I have pointed out, the commercial side of the industry has been somewhat neglected, the same cannot be said in regard to research work. South Australia is well to the front in the poultry world for the amount of research work that has been carried out; and the result of the work performed by Mr. D. F. Laurie (Chief Poultry Expert) is so well known to most of your readers that it will be unnecessary for me to go into detail on this occasion.

The results of the various Egg-laying Competitions are also features that have brought South Australia before the notice of every country interested in poultry. I think I am safe in stating that South Australia has attained the first place amongst the world's competitions. At the Roseworthy Agricultural College last April a pen of six White Leghorn pullets laid 1,589 eggs in the year.

At the same time that it is pleasing reading to see that we are putting up world's records in egglaying, this is by no means the primary object of the Government conducting such competitions. The chief reason for Government support is the fact



Packing Eggs for Export in the Government Freezing Works, Port Adelaide.



Pens in which the Egg-Laying Competition is being carried out at the Roseworthy College, South Australia.

that it recognises laying competitions properly conducted should encourage novice breeders. The competitors are brought before the public by having the weekly and monthly scores of their birds put in official and other journals; thus an incentive is given for progress.

Another important lesson to be learnt as the result of the competitions is the best method of feeding to obtain a good supply of eggs throughout the year. A record is kept of the quantity and kind of food used, and, together with other valuable information, is made available to the public by means of bulletins regularly issued by the chief poultry expert, all being under the authority of the Minister of Agriculture.

TABLE POULTRY.

This side of the industry is making very considerable headway, and each year larger shipments are being sent to England and other markets outside the Commonwealth. Chickens and ducklings are dressed and packed for export by an efficient staff of men under the direction of the chief poultry expert. In this connection, pro-

ducers are instructed, by means of lectures and practical demonstrations, how to breed and feed their birds in order that they may have the maximum of condition with the minimum of age. Ducklings and chickens are available for export about the commencement of February, thus allowing them to reach the English market at least two months before the local supply is ready.

The majority of all the well-known breeds that do well in England are also very suitable to Australia; and practically the same crosses that obtain in England for table poultry are being adopted by poultry-breeders in South Australia. The poultry expert and others interested in the industry are always on the look-out for anything new, and do not stop at a little expense to bring themselves up to date, whether it be by the purchase of literature or the importing of stock birds. South Australia, however, is not only an importer of stock birds, but already many of the leading breeders have exported stock to almost every part of the world, and the demand, particularly for the progeny of record layers, is becoming more and more every year.

## THE UTILITY POULTRY CLUB'S DINNER.

ON Tuesday, July 23rd, the President and Committee of the Utility Poultry Club entertained the delegates of the International Association of Poultry Instructors and Investigators to dinner at the Holborn Restaurant, and as our frontispiece this month we have pleasure in reproducing this notable gathering.

Mr. B. W. Horne, the president of the club, in proposing success to the newly-formed International Society, said:—

"Putting aside my natural objection to making a speech, it is with very great pleasure that I propose the toast of the International Association of Poultry Instructors and Investigators and offer to your members here to-night a very cordial welcome on behalf of the Club.

"In such a gathering of experts on poultry-keeping it is superfluous on my part to dilate on the great value of such an association, or on the large field of beneficent work that lies before it. Certainly I look forward to the commencement of a new era in the progressive march of the utility poultry industry.

"Those of us who have been most intimately connected with the promotion of the industry in this country must be indeed proud that, after so long a period of ceaseless agitation, people not only of this country but of most parts of the world have begun to realise the importance of the industry and the great need of its further development. Still prouder are we that you should have selected this country for your first meeting and one of our most distinguished members for your first president.

"We are always having it brought home to us how little this country has done in scientific research and experimental work and how much our knowledge in this direction is derived from the labours of other nations, but it is gratifying to realise that, at any rate, we have been able to produce one man whose investigations and enquiries into the state of the industry at home and abroad have won the appreciation of all poultry instructors and investigators, and have justly fitted him to be the president of such an international association as yours. Mr. Brown has been the pioneer of the movement in this country, and we rejoice very much at the signal honour you have bestowed upon him.

"And I should also like to express on behalf of my Club how very much we appreciate the scientific researches of Dr. Raymond Pearl, who I am glad after all has been able to be present with us to-night. He has arrived here at a most auspicious moment, when we are just arranging a large laying competition, and hope, in connection with it, to conduct a progeny test somewhat on the lines of those recently carried out at his experimental station at Maine. And we also recognise very fully the great help given by the experimental work so successfully accomplished by Professor Graham, who has also assisted so much in bringing this Association into being.

"Nor can I let an occasion of this sort go by without referring to the wonderful development in Denmark of co-operation in agriculture. We owe much to that nation for the perfect way in which they placed their produce on our markets, and we have to a large extent adopted their methods to the advantage of agriculture here. Their export trade in eggs is a striking instance of what can be done by organisation, and I am pleased that Mr. Kock is again amongst us to give us the benefit of his experience.

"You will forgive me if I remind you that this Club originated those interesting tests of prolificacy known as laying competitions. We have seen with pleasure—tempered perhaps by a little envy—the larger and more comprehensive way in which they have been conducted in other countries, and we have hoped that in due course we too might emulate the scale of the Australian Competitions. Most of you, I think, are aware that only a few weeks ago we received a grant of £500 out of the Development Fund for the purpose of a large Twelve Months' Laying Competition, and I think what helped us most to get that grant was the admitted success of those competitions abroad.

"And if, therefore, there is one reason stronger than another for extending to you our hospitality to-night, it is that your presence here in such numbers and with such earnestness of purpose has created a very deep impression and proved very forcibly the great importance of the industry, so that we may look to a much greater measure of support in the future—for which we shall indeed be very grateful to you."

"Looking back at the long struggle for recognition in the past, one realises how greatly the claims of the poultry industry have been thrust out by the requirements of the larger and so-called more important branches of general agriculture. Mr. Brown has very aptly called the industry the Cinderella of Agriculture, but such an Association as yours cannot fail to give greater support to those claims, and we can confidently look forward to the Cinderella in the near future coming into her own.

"With the interchange of new methods, and new discoveries, your Association will be able to help very largely in strengthening the position of the industry throughout the world.

"It is possible to advocate this interchange without fear of arousing any international jealousies by
the disclosure of what might be termed trade
secrets. I understand from Mr. Brown that the
consumption of eggs is increasing at such an enormous rate that we are all in that happy position of
fearing nothing from competition. You can therefore all work for the promotion of the industry
throughout the world, feeling confident that there
will be an outlet for everything produced, and by
giving one another the benefit of your experiences
you will be able to derive some of the great advantages of co-operation, and in this way you will

very materially assist in that extension of the industry which we all here have so much at heart.

"Gentlemen, I beg to propose the toast of the International Association of Poultry Instructors and Investigators, and with it I couple the name of your President, Mr. Edward Brown."

Mr. Edward Brown, F.L.S., in his reply thanked the President and Members of the Utility Poultry Club for the honour conferred upon them in entertaining the Provisional Committee to dinner, and for the felicitious and kind manner in which the toast had been proposed and received. Continuing, Mr. Brown pointed out that:—

"Our appreciation is the greater because these have come from a Club which has rendered such notable service in many directions for promotion of the poultry industry. Of that others will speak, but such fact adds to the value of your welcome. The support and co-operation of great bodies like the Utility Poultry Club of England is essential to successful accomplishment of the work which our International Association has undertaken.

"May I be permitted to say we are all one, united with a common purpose, that of promoting the welfare of people of all nations by advancement and extension of poultry breeding and production on practical lines, yet with different spheres of influence and labour? In this there is no room for jealously, much less opposition. We should seek to understand each other's position, in which event many misconceptions will be removed and our outlook widened. Success can alone be attained by unity of aim and effort, and I appeal to every section of the poultry industry for loyal and cordial co-operation. Some time ago I stood by the sea shore and noted the various pools, each separate, divided by rocks and banks of sand. Probably the inmates thought their own pool was the entire world. They had never seen beyond. Then came the great waters, burying all, giving widened opportunities, yet each retaining its own life and being. So with the growth of our pursuit, minor differences will be enveloped in the whole.

"Our title is *International*. That involves a wider, a larger conception. It means help to all, and help from all. The aim is high, the attempt a great one. Already much has been done in preparatory work, but it is only the beginning. On our committee twenty-seven countries are represented. That is a striking fact which is most promising. We seek to influence and assist men of every tribe, nation and tongue. It is a brother-hood of service with vast possibilities, but can only be realised by united effort, by self-sacrifice and earnestness of purpose.

"I am glad to be able to announce that to-day we have definitely formed the International Association of Poultry Instructors and Investigators, so that it is now in being, and have adopted a

constitution which will, we hope, prove a sound foundation for a great world-wide association of men and women engaged in advanced poultry work. Among other decisions arrived at is the holding of a World's Poultry Congress in 1914, in which all sections of those engaged in the industry can share. Where that is to be held will be decided later. It is a pleasure to make first these important announcements this evening.

"The task before us is indeed onerous. Your words, Sir, are an encouragement which we appreciate to the fullest extent, and an incentive to persistent and determined effort. We need the cordial support of men individually and corporately, of Governmental departments, of poultry societies, such as the Utility Poultry Club, and of the Press of every land. Anything that I may have been able to do has been due in large measure to the splendid and unvarying help and courtesy of newspapers, extending over many years, and I feel assured these will equally assist in making this a great and powerful Association.

"On behalf of my colleagues, I, as their President, again thank you for your toast, for the good wishes expressed, and for the kind words respecting myself. We regard this as a notable gathering, the memory of which will abide with us."

Professor Beeck, of Germany, responding on behalf of the foreign delegates, said:-

"To me has been given the pleasure of replying to the toast of the Poultry Industry. As you are all aware, much can be said on such a subject, but I believe that "brevity is the soul of wit," therefore I shall be short. For the success of the industry we must be heart and soul in our work, but it is not given to all to be imbued with the spirit of idealism. If it has been given to one man to hold up the standard of idealism, that man is undoubtedly our President-Mr. Edward Brown. He is a shining example to us all. all, gentlemen, demonstrate by your presence here that you too have this spirit, and this augurs well for the future of our industry. I believe that the meetings we have been holding during the past week, including, as they have, representatives of many nations, indicate a further promotion of our work. We have laid the foundation on which an edifice will be erected in the future—an edifice under the roof of which all nations will forgather to the advantage of future generations. I wish success to the industry and ask you all to cry with me for the success of the International Association — Hurrah — Hurrah — Hurrah!"

Among the other speakers were Mons. P. A. Pichot (France), Dr. Raymond Pearl (America), Mr. T. R. Robinson, F.S.I. (U.P.C.), Major Norton, D.S.O. (S. Australia), Professor W. R. Graham (Canada), and Mr. C. E. J. Walkey (U.P.C.)

#### THE INVISIBLE CHICKEN

SEVENTH ARTICLE.—FROM ARM TO WING.

Written and illustrated by James Scott.



E may "shake hands" with our dogs, and even with our cats; but to speak of "shaking hands" with one of our fowls sounds the very height of absurdity. Yet the idea of doing so

is not so far-fetched as might at first thought appear to be the case. As a fact, cocks and hens belong to a race of creatures that undoubtedly possessed four legs with corresponding paws and claws. Their ancestors were of the reptilean kind, and although it is quite impossible to trace by exact steps the successive groups through which our poultry passed to its present state of perfection, we have sufficient

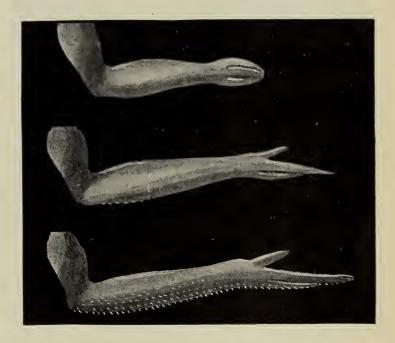


Fig. 1. The evolution of the forearm of a chicken into a wing. The top object is a six-days' arm (about § of an inch long) and the other are on the following two days.

proof, provided for those who will take the trouble to examine it, by which we can decide many very interesting connections.

If the reader will carefully feel along the edges or long parts of the wings of his birds, especially the younger stock, he will in several cases feel a distinct knot or protuberance projecting from the front angle. I believe that in the majority of species this feature has been entirely obliterated in the mature grown fowls, though it exists, in even more striking prominence, inside the eggs of the same creatures.

Before I go any further in the description of common phenomena, little known to or suspected by the average poultry fancier, it will be advisable to say a few words respecting a living specimen of bird which retains this claw in a highly developed condition.

This amazing natural curiosity, a kind of link remaining between hands and wings, is called either the Hoatzin, the Stinking Pheasant, or Governor Battenberg's Turkey, and is a native of British Guiana. This peculiar bird hatches

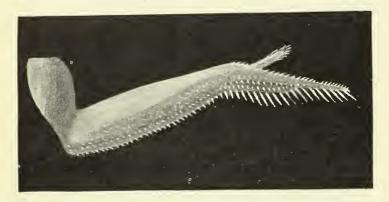


Fig. 2. A magnified arm of a twelve-days' chicken, the actual length being between fin. and fin. Here the thumb is almost stationary and the middle finger is elongated.

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from an egg laid in a nest, composed of twigs, high up in a tree. As soon as it is born it leaves its domicile and begins scrambling among the surrounding branches, actually climbing with facility and confidence. These remarkable feats are rendered possible because of the presence of a distinct claw on the upper outermost angle of each wing. This thumb-like object acts in union with the outer extremity of the wing—we can call this a forefinger—and gives the Hoatzin a couple of wing pincers by which it can lift itself up among the boughs and perform the usual agile movements of climbing animals. The old Hoatzin cannot climb.

Now let us return to our chickens, millions or which are yearly born into fields, gardens, and backyards without attracting the slightest notice in this respect. It is worth mention that the young game-bird is one of the best specimens to examine for the presence of the claw to which I am referring. But almost every new-born chicken possesses it. Judging from its definiteness, we are led to the excusable belief that not many generations ago these creatures must have lived in trees, climbing—not merely flying —to and from their nests.

It is in the eggs, however, that we shall find the greatest amount of interesting matter. Upon breaking open an egg of about six days' incubation, and carefully removing the embryo from its yolk and its albuminous surroundings, we find, when this strange little being is spread out in water to render observation easier, that from each side of the chest there projects a short arm and hand, the latter having three fingers. Each complete arm is then about  $\frac{5}{8}$  inch long. Fig. 1. will be useful to refer to.

At this stage of development the limbs are extremely delicate and soft, and will tear at the slightest maltreatment. The "bones" are little more than collections of minute cells which have not had sufficient time to amalgamate together into a firm substance. Not even the common hardness of the familiar cartilage—the fundamental forerunner of our bones—is noticeable. The limb appears to be enveloped in a thin, semi-transparent, membranous covering.

The reader will not fail to detect the great resemblance between an ordinary arm and hand, with its elbow, wrist, and so forth, and the small object to which I am now referring. Indeed, it is a genuine arm; and allows us to decide that at some time the ancestors of our poultry must have actually used limbs of this kind, feathers as we know them being an additional provision instituted by Nature for express purposes. Can anyone doubt, after having structural evidence of this kind before them, that evolution is and has been an established fact of Nature? Whatever may have been the form of the original ancestors of modern birds, it was no doubt found by Nature that it was preferable for these creatures to fly out of danger rather than use the apparently more serviceable arm and hand. Flying need not be more than a few feet up, or over a water course. To us, fingers are of extreme utility; and I doubt whether anyone

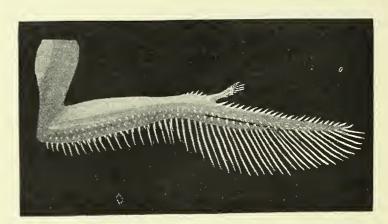


Fig. 3. A magnified arm of a sixteen-days' chicken. The middle finger is elongating with the outer half of the wing limb; and hairs (downy feathers) are getting [Copyright abundant. Actual length 3 inch.

would care to have wings instead of arms and their adjuncts; but in wild life matters have been adjusted for the benefit of various possessors without too great a preponderance of disadvantPeople who will take the trouble to count the number of fingers—or shall we call them toes?—on a series of different reptiles will be surprised when they bear these facts in mind along with those I am now stating.

As may be understood, when I have dealt inwardly with the contents of an egg I cannot follow up that specimen. It is spoilt by the treatment; but by cracking open another which corresponds with an immediately following date, we can view the next development of the arm and hand. A whole series of marvels is provided in a complete set of incubated eggs. All eggs of the first few days have the arms and hands. Those of the succeeding days have

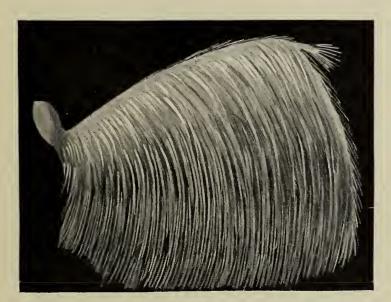


Fig. 4. Complete wing of chicken just before birth; actual length 1½ in. The thumb is disappearing, the middle finger forming the right half of the limb.

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these same things slightly modified. Later on advances are perceptible and the true wing begins in each case to form. Even at the very last, however, when the chicken hatches, there still remains sufficient of the objects belonging to the separated hand to serve as proof that wing has not bred wing without any intervening modifications.

I examine an egg of twelve days' incubation. Here the thumb or upper finger has practically remained stationary as in Fig. 2. At any rate, it has not made the advance that is noticeable in connection with the middle, or index, finger, while the third or lower one has also become refractory. On each succeeding day, the forefinger—the index or middle finger—elongates strikingly, whereas the others become less important. Before the three weeks are over, which are occupied in turning the contents of an egg into a chicken, the third finger is practically absorbed in the second one, and the thumb

sticks up as a single claw. Fig. 3. illustrates the sixteen days' arm.

During early days tiny papillæ or swellings emerge from the lower parts and sides of the enlarged fingers, and these eventually elongate into hairs. Their lengthening can be traced day by day, until when the bird is about to hatch the forearm and hand are densely clothed in a flat layer of hairs, as in Fig. 4. I have elsewhere shown how the hairs of the chicken are converted into downy feathers, so that I will not go any deeper into that phase now.

When the chicken is born, the thumb can be distinctly felt, but this object goes away and leaves nothing in its place. Some of the nuclei which helped to form the arm and hand will, however, remain, and pass on their influence into the germs of the forthcoming eggs; and then the following embryos will have similar arms and hands. But the time will come when these traces will be obliterated. Nature is not short of time, and is very leisurely in wiping out undesirable features of a race; though, as in freaks, it can do marvels suddenly when inclined to.

Many examples could be cited where very remarkable characters disclosed in an embryo die out of it by the time birth approaches. In few cases only, however, can the modification exceed in strangeness the fact that the unborn chicken in every egg possesses an arm and hand.

#### A New Poultry Institute in the Transvaal.

From the Johannesburg Star: "That the movement towards scientific poultry culture has been slowly but surely progressing in South Africa we have been aware, and now we have very tangible proof that some, at least, are taking it seriously by the establishment at Benoni, in the Transvaal, of a Rural Training College, conducted by the Hon. Mrs. H. Scott, who is one of the best known and most successful poultry farmers in the For years we have seen her Plymouth Rocks taking high honours at our principal shows. The college is for women students only, and will embrace all subjects concerning the dairy, poultrykeeping, garden, household economics, and live stock generally, so that ladies arriving from oversea, or Colonial girls, who have had no opportunity of studying high-class work in these subjects, will be able to qualify themselves for the important branches of farm work for which women are so well suited In view of the advance in the farming industry that is taking place all over the country, we feel sure that many will find this training college just the very thing needed."

## ARTIFICIAL INCUBATION IN EGYPT.

By W. H. Cadman, B.Sc., F.C.S., Assistant Master, Thedwich Secondary School.

THE art of hatching fowls' eggs by artificial heat originated in Egypt in very remote times. The Egyptians have long been famous for this practice, and still successfully carry it out throughout the country on a large scale.

The building in which the incubation is performed is called by various names in Upper and Lower Egypt, such as: maamel el ferakh, maamel el farroog, maamal el gezaz, etc. It is generally constructed of sun-dried Nile mud bricks and consists of two parallel rows of ovens, divided by a vaulted passage. The diagram, for which I am indebted to my colleague, Mr. John Whitworth, gives the dimensions of a small but typical one.

Each egg-oven consists of two cells or compartments communicating by an opening in the middle of the lower roof. There is also a dome-shaped opening in the upper roof for the escape of smoke. A number of smaller openings for light and ventilation exists along the vaulted passage. The dimensions of all these apertures can be altered with ease from the roof of the building, and play an important part in regulating the temperature within the cells.

Round the sides of the floor of the upper cell, are narrow troughs with thin sheet iron bottoms in which the fuel is put.

Each cell can be entered from the passage by an opening just large enough for a man to enter to place the eggs or fuel. The eggs are put on straw mats on the floor of the lower cell arranged as shown in the diagram. The buildings vary in size, usually containing from 8 to 20 ovens each. In addition to these, there are generally several rooms attached to serve as living rooms for the attendants, stores for eggs and fuel, and receptables for the chickens when newly hatched.

The incubators are worked for four or five months of the year only, in winter and spring.

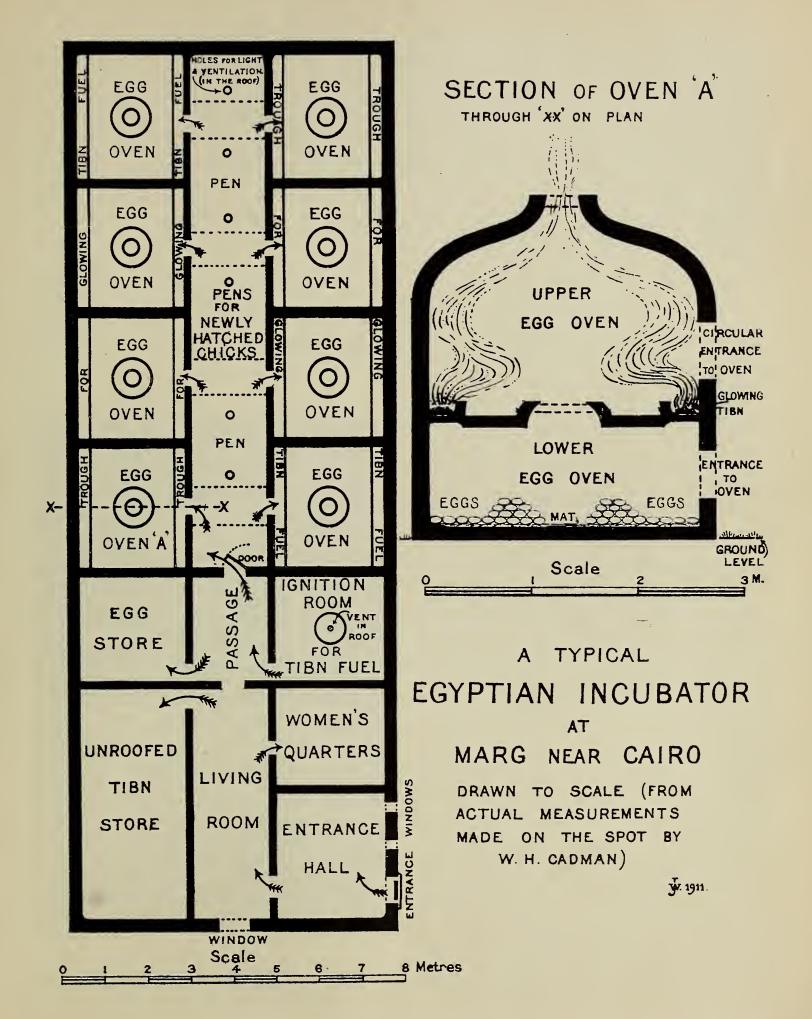
Method of Working.—The ovens are heated a few days before putting in the eggs by burning fuel on the floors. Tibn from bean straw or dung cakes serve as the fuel. The superintendent or his assistants collect the eggs from the women of the neighbourhood, either directly or through native egg-dealers. Unfortunately, the best and largest eggs seldom reach the incubators, a better price being got by selling them from house to house or in the town markets. In obtaining eggs from the women it is sometimes agreed to give one chicken for every two or three eggs received. When a sufficient number of eggs has been collected, the fires are removed from the cells and the temperature regulated to the required degree. The eggs are then placed on the floors of these lower cells. The temperature is maintained at about 103° F. by adding glowing fuel from time to time to the troughs in the upper compartments. I have never found a thermometer used. Long experience has enabled the manager to know the exact temperature necessary to be maintained for the success of the operation. He usually puts an egg against the sensitive skin of his eye-lid and feels the degree of heat. By attending to the roof-openings and fuel supply he regulates both temperature and aeration. The eggs are moved twice a day. After seven days, they are tested by holding each egg in front of a candle or olive-oil lamp. The clear, unfertile ones are removed and sold or sent to market. On the eleventh day the fires in the upper compartments are put out, and about two days later some of the eggs from below are transferred to the upper cells. Generally only half the ovens are heated during the first ten days, the other half being filled with eggs when the fires no longer require attention in the first half.

The period of hatching is twenty-one days, the same as that required for natural incubation. The chicks are removed to the passage and are usually disposed of the following day, no food being required. These day-old chicks are sold at 25 to 35 P.T. the hundred, according to the time of hatching. Another system largely used in some districts is known as El Tilt. A woman is given one hundred chicks without payment and undertakes to return to the owner of the incubator one-third of that number as young pullets after three or four months.

On an average, each oven holds about 6,000 eggs. Assuming that each of the 512 native incubators work four months, using, on an average, ten ovens, it follows that about 185 million eggs are put in these incubators yearly, during the short period of hatching. The fact that only about one-third of the eggs fails indicates the high standard of perfection attained in the practical working of these ancient types of incubators.

In Upper Egypt the superintendents are mostly Copts. In Lower Egypt this work is almost entirely in the hands of the Birmawee, who have been trained at the villages of Birma, about 12 kilometres from Tanta. Each incubator is in charge of one Birmawee superintendent and two or three assistants. The latter, after working for two or three years, are qualified to become superintendents.

About 25 years ago these Birmawee were under a sheik whose permission was necessary before any new incubator building could be made in Lower Egypt. He also fixed the district within which the proprietor of an incubator was allowed to sell his chicks. No such restrictions are now in force, a small Government tax on the new building being the only obligation.



E. W. Lane states in "The Modern Egyptians" that he found in one of the Egyptian newspapers, published by order of the Government, on the 3rd of March, 1831, the number of establishments for the hatching of fowls' eggs in that year to be 105 in Lower Egypt and 59 in Upper Egypt, using some 19 million eggs, of which some 6 millions were spoiled. Since that date I have been unable to find any statistics. I attach great importance to the development of these native incubators for improving the poultry industry in Egypt. At my suggestion, the Director-General of the Department of Agriculture kindly had a census of chicken incubators taken throughout the whole of Egypt. The following lists gives the number on September 12th, 1911. It will be seen that there are at present 239 in Lower Egypt and 273 in Upper Egypt.

I attribute the non-sitting instinct of Egyptian poultry to this old practice of artificial incubation.

List showing the number of chicken incubators (maamal el gezaz) in Egypt, 14th September, 1911

Cairo		4	Galiubia		21
Alexandria	• • •	2	Giza		<b>1</b> I
Suez Canal	• • •	О	Fayum		13
Damietta	• • •	I	Beni Suef		27
Gharbia		65	Minia	• • •	43
Dakahlia	•••	46	Assiut		61
Menufia		49	Girga		46
Behera	• • •	18	Qena	• • •	58
Sharkia	• • •	33	Äswan	• • •	14

The native incubators might be made to hatch the eggs even more satisfactorily than at present by introducing thermometers and perhaps a few other improvements.

I do not consider it desirable for the poultry industry in Egypt to substitute the smaller and much more complicated European incubators. The entire lack of selection of the eggs for incubation explains the gradual diminution in size of Egyption fowls. In fact, in some districts I have found the best and biggest eggs retained to be sold to Europeans. It will take some time to remove the prevalent idea that any egg which is fertilised is good enough to produce a chicken. The organisation of poultry farms or breeding stations in selected areas to supply selected eggs to native incubators would go a long way towards improving the poultry of this country. Such stations would carry out much experimental work of the greatest value. At present very little has been done in selecting the best strains from the best native breeds of fowls suitable to each district, or in crossing selected native fowls with approved acclimatised breeds, or in investigating the poultry diseases which play so much havor from time to time. As far as my own observation goes, there are at least three breeds of fowls in Egypt which are much superior to the small native fowls seen in the markets and villages, and which could be improved by selection and suitable crossing.

The Fayum and the village of Dandara, in Upper Egypt, have breeds of large fowls which are excellent for table qualities. They also lay large eggs, but are not so prolific as the smaller native fowls. When visiting Dandara in June last I was astonished to find the number of large fowls very much diminished. I fear that unless some regulation is put upon the supply of these birds to meet the demands from Luxor and other places, this famous breed will soon become extinct. In Lower Egypt, the Behera Province produces the best poultry, notably, the district round Kafr el Sheikh. These fowls called "Behera" or "Felaheen" are the best egg-layers in the country and are also good eating.

To improve the egg-production, I would suggest crossing selected native strains with well-known imported egg-producing breeds, after proving that they can be acclimatised. The Mediterranean breeds, such as Minorcas and Leghorns, might prove suitable. These are, par excellence, the egg-laying breeds.



Prof. W. R. GRAHAM.

Particulars of Mr. Graham's career and of the excellent work he is doing in Canada were given in the July issue of the Illustrated Poultry Record.

## NEW SOUTH WALES POULTRY CONFERENCE.

THE recent conference at the Hawkesbury College, says the Sydney Mail, attracted nearly 400 persons interested in poultry farming. Papers on subjects of special interest were read. One essay on hatching, by Mr. C. Leach, of Belmore, received a special prize of two guineas. The writer contended that autumn hatching was superior to spring hatching. His experiences—and he operates on a large scale—were detailed.

Mr. Craft and Mr. Kelly, both practical men, dissented strongly from some of Mr. Leach's conclusions. Mr. Kelly said that he had lost nearly every autumn-hatched chicken from mosquito bites, which produced the well-known warts. If, he added, the Government Bacteriologist could discover a remedy for this fatal pest he would confer blessings on the poultry industry equal to those which science had conferred on wheat farming.

An interesting paper was read by Mr. E. W. Hyndman, whose subject was co-operation. He made out a strong case in favour of unity among poultry farmers, and urged consigning their produce to their own mart and direct to consumers to save the middleman's profits. Everyone agreed with the principle of co-operation, but it was pointed out that failure often resulted from lack of united support from the farmers themselves.

"The Disadvantages of Early Maturity" was a contribution by Mr. W. O'Hearn, of Maitland. He argued that early-laying pullets were seldom lasters, and often were inconsistent in their laying.

Mrs. J. Stewart's contribution was "Hints on Incubating and Brooding." Her preference was for hot-air incubators and the hot-water-pipe style of brooders. Emphasis was laid upon the importance of absolute cleanliness.

"The Cockerel Problem," by Mr. W. T. Ely, was aptly named, as attempts to solve it provoked animated discussion. The author of this wellwritten paper painted an attractive picture of the profits from caponising cockerels and placing them on the market at 12s. a pair. His methods and conclusions did not, however, find favour with men who make their living from eggs and table poultry. One practical breeder stated that caponising Leghorn cockerels was next to worthless. Another farmer of 15 years' experience said that there was money in eggs, but none in cockerels, which "ate their heads off" before they were marketable. His way with male fowls was drastic. As soon as he could distinguish the sexes he chopped off the heads of the cockerels and boiled their bodies to feed the pullets.

A feature of the conference was the keen interest taken in it by the Minister for Agriculture. That

gentleman recognised that the poultry industry is one of national importance. He quoted statistics intended to show that 13,204,000 dozen eggs were accounted for in this State in 1910, and that poultry products in that year amounted to 1\frac{3}{4} million sterling. Mr. Trefle also said that the Hawkesbury College competition hens showed a yearly profit over feed expenses of 12s. 4d. a head, and he challenged the sheep-breeders to show similar results from ordinary flocks.

This rose-coloured statement is discounted considerably by the fact that the college fowls are not debited with cost of labour, expert supervision, rent of premises, construction of yards, etc. The pronouncement that hens earned 12s. 4d. each over their rations is therefore misleading, as anyone would find out if he were simple enough to expect an annual return of £616 13s. 4d. from 1,000 hens at the profit per head quoted.

Poultrymen, however, will be glad that the Minister has promised them the following material assistance:—(1) The appointment of an expert to teach farmers and others the poultry business; (2) Inspection of poultry feed to check adulteration; (3) Subsidies of ros. in the pound on the prize money of poultry clubs which can show members' subscription to the amount of £50.

Mr. Dunnicliff, jun., was presented with a purse of sovereigns in recognition of his II years' work in connection with the egg-laying competitions.

#### Organisations for Promoting Utility Poultry.

Last year in Buffalo, New York, where years ago the American Poultry Association was formed, the International Utility Poultry Association came into existence, not as a rival to the American, but for the special purpose of improving the market hen and the market conditions connected with her is proposed to do this, first, by encouraging the breeding of pure or cross-bred fowls for useful rather than show purposes; second, by establishing egg-laying contests, under proper management; third, by conducting utility poultry shows; fourth, by forming utility poultry clubs; fifth, by obtaining the best advice for members as to selecting, breeding and raising such fowls; sixth, by awarding prizes for the best and most economical methods of packing and marketing poultry products; seventh, by putting members in communication with retail dealers and large consumers for the disposal of surplus products; eighth, by adopting a standard package to be used by members only; ninth, by trying to reduce shipping rates—perhaps the hardest part of all; tenth, by judicious advertising to attract the consuming public. Nine States are now represented in membership. — Country Gentleman, U.S.A.

#### THE POULTRY INDUSTRY IN DENMARK.

By Konsultant W. A. Kock.

IN the course of the last 20 to 25 years, the poultry-breeding industry in Denmark has become very important as a remunerative source of profit. It is not the production from single large poultry farms but from the many small holdings which proves the national economy of poultry-keeping in this country. The export of Danish eggs to the English market last year represented a value of 29½ million kroner (1 kroner is worth 1/1¼d.), and this in addition to a large home consumption of eggs and poultry. Visitors to Denmark will find poultry everywhere, not only at the farms but also at the houses in the villages. At the farms the poultry houses are most commonly to be found

We have very few large poultry farms in this country, and as a rule they do not seem to do very well. During the course of last year there was a growing desire to ascertain the number of eggs produced by each hen in order to breed from the best layers. This work is in many cases carried out by the smallholders. Much weight is laid on establishing breeding centres. Prizes are given to the best poultry-keepers in different parts of the country. The accounts must show a profit and the committee of judges visits the different poultrykeepers taking part in the competition. The principal part of the work in this connection is done by the Konsultants Secretary, who must write the reports. It is egg-production and eggproduction alone which is of interest.



Farm buildings converted into a Permanent Poultry House on a Danish Poultry Farm.

[Copyright.

among the permanent farm buildings; the hens are mostly Leghorns and Minorcas, as well as cross breeds between these and the common barn-door fowls. At other times of the year they are shut up in special runs.

At many small holdings in various parts of the country, where the largest number of hens is to be found in proportion to the area, twenty to forty hens are often kept, while on peasant farms there may be forty or fifty and more. On an average the yearly net profit amounts in many places to  $2\frac{1}{2}$  or 3 kroner per hen, and more, without counting the special income from prizes or of eggs for hatching, cheap corn, and other extra earnings. In many cases it is not only the man but the woman also who takes care of the poultry, and especially in the chicken rearing.

Not much has been done up to the present in the matter of fattening poultry, and the little which has been done is only for the purpose of satisfying the home consumption. Artificial hatching and breeding is only adopted in a few places. As is well known, co-operative societies are established with great success in Denmark, and this is of great importance to the many-poultry breeders in the country. The Danish Farmers' Co-operative Egg Export Association, founded in the year 1895, has been a great success. During all these years it has been able steadily to improve the collecting and treatment of the eggs. The people have more and more come to understand this question and that it all depends on the quality. The object of each is to deliver to the English market a new-laid, clean, and good egg.

### FARM POULTRY.

By FRED. W. PARTON

(the University, Leeds).

THERE appears to be a great diversity of opinion as to what constitutes a poultry farm. Farm poultry-keeping and poultry farming are two distinct things. In the one case fowls only form a part, and only a minor part at that, whereas a poultry farm is that in which fowls are the only source of income, and where no crop is obtained from the land. Rent, labour, and food, are thus all chargeable to the fowls.

In addition to farm poultry-keeping, and poultry farming, there are other kinds of poultry-keepers:—smallholders, specialists, fanciers and backyarders. It is, however, the farmer class of poultry-keeper with whom we are at present concerned. There is no doubt that vast quantities of eggs are produced for market every year by others than those engaged in farming. It is the farmer, however, upon whom we depend for the bulk of the British egg supply, since he has many advantages and opportunities which are possessed by no other class of poultry-keeper. In the first place, he has plenty of space; and the advantage of this cannot be over-estimated. It is apparent in so many directions. Especially is space beneficial to his chickens that are ultimately intended for breeding purposes. If they have absolute freedom in their early life, a sound and robust constitution is built up which will be of inestimable value to them when the breeding season arrives, and an equally sound constitution will be transmitted to the chickens by the union of parents that have been brought up in a hardy fashion. It must not, however, be imagined that only fowls so reared on a farm should be used for breeding from. We do not, of course, agree with breeding from chickens that are kept under the conditions of the backvarder. But there are intermediate conditions. and we have known some of the best chickens reared under circumstances which certainly at first sight did not appear to be the most desirable. At the same time there is no doubt that chickens having extensive land to roam over, and that are strangers to restriction of any kind, develop those qualities which are essential in breeding stock, for the propagation of health and condition in their progeny.

The benefit of breeding from birds reared at liberty is apparent in many directions, but perhaps in none more than during an attack of any form of disease, and, were comparison to be made as to the mortality among those bred from

parents accustomed to confinement and those reared under more natural conditions, it would invariably be found that the former succumb much more readily than the latter to any adverse influences. When plenty of space is available, there is a further manifest advantage in that the danger arising from tainted soil is very considerably lessened. On a farm, one ought to be able to say that the danger is entirely obviated. This, however, is not so. We have more than once known disease of the most deadly nature to attack farm poultry. This in every case was due to wanton neglect on the part of the farmer. There were many acres of pastures over which the fowls were at liberty to wander, and no doubt would have wandered had they been managed in a proper manner. They were kept in a paddock where ducks, geese, turkeys, and the ordinary fowls all made one huge flock. They were housed, sheltered, and fed—frequently over-fed—always on the same place. There was no temptation for them to leave their unsanitary surroundings. After a time a very serious epidemic broke out which spread with alarming rapidity; the trouble was felt more or less on practically all the farms in the neighbourhood. This, however, reflects only on the farmers in question, and fortunately does not apply to farm poultry generally. Therefore the fact may be emphasised that the farmer has unique opportunities so far as space and freedom from contamination are concerned.

A further very important advantage is the farmer's opportunity of getting cheaper food for his poultry. Not only does he grow practically everything that is needed in this direction, but there are weathered-corn and other unsaleable products that can be utilised by the fowls. There are thousands of intensive poultrykeepers who have no opportunity of producing even a head of lettuce or a cabbage to provide greens for their poultry and in consequence everything, with the exception perhaps of a few household scraps, has to be purchased. When their lot is compared with that of the farmer, the enormous advantage he possesses becomes apparent, since greens of almost every description can be procured for next to nothing, while animal food is obtained in abundance. In addition there are the sweepings after threshing, and the hundred and one items that but for the fowls would be wasted, instead of being converted into eggs and flesh. Furthermore, the farmer has no labour to pay for. If his wife or

daughters do not under take the poultry work, it is done by one of the farm hands at no extra pay, since it is done in connection with his other duties, and in his working hours.

It is only the farmer who can adopt the colony system, and can place his fowls in every available position on the land; permanent pasture, meadow, and arable land all in turn being made use of in this direction. It is often stated that fowls kept under these conditions do not receive the same amount of personal attention, and are apt to become wild, and consequently there is a tendency to reversion. It is perfectly true that fowls enjoying this natural freedom from all restriction may not be quite so productive, since domestication is

get all that he might get out of his poultry? The answer must be in the negative, when it is remembered that the number of fowls kept in this country works out at rather less than half a fowl per acre of land under cultivation. One is bound to come to the conclusion that a great deal more might be done than is done in this very important branch of farming. In the first place it is necessary that the farmer should not merely regard poultry-keeping as a sort of side line. It is certainly only a minor branch of agriculture, yet it is of such growing magnitude that it deserves a great deal more attention than it receives on many farms. However, things are rapidly improving in this direction. At one time fowls were considered as entirely beneath



A Mixed Flock of Poultry on the Farm belonging to the Queen Hotel, Harrogate. (See Page 546).

largely responsible for the enormous increase in all economic qualities. But this drawback is completely over-balanced by the advantages gained by the fowls: they are kept in a perfect state of health by the continual change, and the amount of natural food they obtain can scarcely be estimated. Not only so, but the land is benefited to a tremendous extent. All these manifest advantages considered, it is not too much to say that the farmer has it in his power to produce eggs at least fifty per cent. cheaper than can his less fortunately placed brother poultry-keeper.

The question is, does the average farmer take full advantage of his opportunities, and does he notice by the farmer himself, and were merely left to the care of anyone who would throw down a bucketful of maize. A great change has been wrought during the last few years, and some of the largest farmers regard poultry as worthy of serious consideration. Farmers as a general rule are held up to ridicule as to the manner in which they attend to their poultry. This sweeping condemnation is, however, quite unfair. We have met some of the most enterprising of farmers, who take a keen and intelligent interest in their fowls, and are not ashamed to admit as much. We know others who not only regard them as highly remunerative from the commercial standpoint,

but, from a small beginning, have seen with a business eye the great possibilities they were missing, and have branched out considerably in one or more directions that lend themselves for One such farmer, whom we specialisation. know very well, stands out prominently in this direction, and he admits to clearing, on an average, between £150 and £200 per annum from his poultry. Originally his stock was of the usual nondescript farmyard character, and with these he did fairly well, but he objected to have to dispose of well-grown cross-bred cockerels for two shillings and sixpence, or at most three shillings each, after keeping them for six or seven months. Consequently he cleared off all of the mongrel type and started afresh, with pure-bred birds, with the intention of selling cockerels and the surplus pullets for stock purposes. In addition to this he sold sittings of eggs at half-a-crown a dozen. He informed us that since he started with his purebred stock he received many more orders than he could possibly supply. There is certainly nothing very original in this idea; but originality is not claimed for it. Such cases are now extremely common among farmers. It merely proves that fowls are not so generally neglected on a mixed farm as many people suppose them to be. There are many directions for specialising that the farmer could not possibly go in for, since they entail a great deal of labour and time which would probably only be accomplished to the detriment of some other branch of farm work. As an instance it may be added that breeding and fattening spring ducklings, to be ready during the months when the highest prices are to be obtained, requires both time and skill to bring them up to the perfection necessary for successful competition with those who devote all their time and energy to this profitable branch of the industry. The same thing applies to poultry fattening as carried out in Surrey and Sussex. This is, in itself, a business and must be so regarded, since an attempt to undertake such work in the odd half-hours that may be snatched from other duties inevitably means failure.

There are, however, directions in which the farmer might satisfactorily specialise, and in few directions are there greater possibilities than in keeping pure-bred stock for the purpose already mentioned. They require no more attention, nor yet do they consume more food, if as much, as cross breeds, and considerably better financial results accrue. There are other directions in which the farmer might devote his special attention, and by studying the market quotations he will soon realise what time of the year to market his produce to obtain the best

prices. He will find out when he should have his guinea fowl ready for consumption; when to have his spring chickens on the market; and he will realise the importance of producing a few "green geese."

Perhaps it is in the direction of marketing his poultry produce that the farmer is still far behind the times. He is harder to move in this than in any other direction. Incredible as it may appear, there are still many districts in which eggs are exchanged for other domestic commodities. Inprovements in the methods of marketing are by no mean commensurate with the improvement made in other branches of farm poultry. It may, however, reasonably be hoped that we may see greater advancement and more systematised methods of the collecting and marketing of eggs and table chickens in the near future, especially by the younger generation of farm poultry-keepers, who are being gradually yet surely weaned from the old methods followed by their forefathers.

#### Value of the Hen.

The Minister of Agriculture for New South Wales, in an address at Hawkesbury Agricultural College, stated that in 1909 the poultry farms in the State contained no fewer than 3,216,000 head of poultry. In 12 months' time that number had increased 15 per cent., the total being 3,696,000 head; so that the State seems to be approaching the period when it will be able to supply every man, woman, and child in the Commonwealth with a turkey or a fowl, if the distribution were practicable.

Such a very large number of poultry presupposes a proportionate increase in egg-production, and the Minister for Agriculture showed that in 1910, the latest available figures apparently not going beyond that year, New South Wales produced 13,205,000 dozen or 158,460,000 eggs, being an increase over the previous year of 13,296,000 eggs. Mr. Trefle did not have the figures for 1911, but he was quite sure that their increase would at least be maintained, so that both poultry and egg production are on the up-grade. The figures only apply to the product of farms of over an acre in area, and, consequently, exclude a large domestic production. Another fact was cited by the Minister making the industry still more important from the producer's standpoint. Prices have risen despite the increased production, the rise in five years being no less than 25 per cent., and the Minister was on safe grounds when he said that in no other products from the land had such a great improvement been noted. A noteworthy feature is that increase in values has occurred despite the increase in the price of fowl's feed, which fortunately the recent rains will tend to reduce.

## THE POULTRY QUESTION IN CON-NECTION WITH HOTELS.

COMPETITION to-day is so keen in every business that any methods that will produce economical working are eagerly seized upon. In no business is this modern trait so apparent as in the case of the hotel-keeper. His expenses have become so great, and at the same time he has to give so much in return for the money he receives, that, wherever possible, he launches out into schemes for the purpose of economising the working of the hotel. A great many hotels nowadays have adopted the plan of becoming, to a great extent, self-supporting; that is to say, they have instituted

In a conversation we had recently with Mr. Heyden, of the Queen Hotel, Harrogate, we had a good insight into the methods of working an upto-date hotel poultry farm. The Queen Hotel has gone in for everything that is likely to be of benefit to visitors in a very thorough manner, and chief among these is the fact that it has a farm of its own which supplies it with butter, milk, eggs, and chickens. On this farm there is a large variety of barn-door fowls, numbering about four hundred head. In addition to this, there is a large number of ducks, geese and turkeys.

These are fed principally on the scraps from the hotel, consisting chiefly of broken bread, soup, and meat.



The Farm Buildings at the Queen Hotel, Harrogate.

farms which keep them supplied all the year round with dairy, farm, and garden produce.

In this manner their visitors are always assured of obtaining everything absolutely fresh, and where butter, milk, cream, and eggs are concerned this is a consideration of primary importance. Many a hotel has lost a good customer because the breakfast egg was not fresh. As a consequence, it is greatly to the advantage of a hotel to be quite certain that whatever is provided will please the most critical of guests. A hotel which has a poultry farm of its own from which they are supplied with eggs and table birds possesses a great advantage. While, of course, such a farm does not go in for fancy breeds or specialise in show points, they keep pure or cross-bred stock, and these are able to keep the hotel supplied with all the eggs that it requires. By a judicious selection of even the barn-door type, and by care in the arrangements made for housing and feeding, several hotel pro-prietors whom we know have found it possible to maintain the supplies of eggs the whole year round.

There is also an extensive dairy farm, where between fifty and sixty gallons of milk are produced daily, all of which is used in the hotel.

#### "ALL ABOUT THE POULTRY CLUB."

Such is the title of a pamphlet that has just been issued by the council, since it is felt that the club is not as representative of the poultry Fancy as it should be. It is well known that there are more exhibitors without its ranks than within, which should not be if the Poultry Club is to be the premier club and ruling body of the Fancy. The pamphlet treats of the formation and history of the club and mentions its objects and constitution, while it shows the advantages of joining and gives seven reasons why poultry shows and specialist clubs should become associated. We may add that we shall be happy to send a copy of the pamphlet to anyone applying to us,

# INTERNATIONAL ASSOCIATION OF POULTRY INSTRUCTORS AND INVESTIGATORS.

AT the meetings of the provisional Committee, held in London, July 18 to 24, an Association under the above name was formally established, and is now an accomplished fact. During the week important reports were submitted from many countries, recording the present state of poultry teaching and research, which it is intended to issue in permanent form. The Constitution adopted, which will be published at an early date, states the objects to be interchange of knowledge and experience among those engaged throughout the world in poultry teaching, demonstration, and investigation, and to promote extension of knowledge by encouragement of scientific research, practical experimentation, the collection of statistics, study of the problems of marketing, and in other ways. Candidates for membership must be engaged as teachers or instructors, as experimenters or investigators, as Government officials employed in poultry work, or as making a noteworthy contribution to advance the poultry industry. The ordinary fee for membership is £1 per annum. Also, provision has been made for the election of patrons, inclusive of persons, Government departments, associations, or clubs contributing to the funds of the Association.

Among the other decisions arrived at are:

- (1) That a Fellowship be instituted, with the designation F.I.P.A., to be conferred only on such persons as shall have rendered service of the highest distinction to the advancement of the poultry industry. Only five of such Fellowships shall be conferred, by vote of the entire Association, every three years.
- (2) That a Central Bureau shall be established for the time being in London, which shall be the clearing house for information to members and others concerned in promoting the poultry industry.
- (3) That records of experiments and investigations be collected and distributed among the members, and material exchanged for future work.
- (4) That there shall be established at the Central Bureau a Historical Section, and one for illustrations and lantern slides which can be loaned to members.
- (5) That members shall collect and supply annually statistics as to the progress of poultry teaching and research in all countries, and that efforts be made to improve the statistics of poultry production and adopt a universal form.
- (6) That as soon as financially possible a journal be published regularly, in which will be given summaries of bulletins, reports and special articles dealing with poultry problems, and such other information as may be thought desirable.
- (7) That efforts be put forth to raise the standard of poultry teaching throughout the world.

It was further resolved that, subject to the receipt of acceptable invitations, a World's Poultry Congress be held in 1914, representative of all sections of the poultry industry, and it is hoped that such invitations will be forthcoming at an early date.

Officers and Council were elected as follows:—

LIST OF COUNCIL (ELECTED JULY 23, 1912).

Country, &c. Name and Address.

President—Mr. Edward Brown, F.L.S., 52, Queen Anne's Chambers, Westminster, London, S.W. Hon. Secretary—Dr. Raymond Pearl, Agricultural Experiment Station, Orono, Maine, U.S.A.

Australia—Mr. E. J. Dillon, 409-410, Strand, London; Mr. D. F. Laurie, Department of Agriculture, Adelaide, South Australia; Major Norton, D.S.O., 85, Gracechurch Street, London, E.C.

Belgium—Mons. M. van Gelder, Château Zeecrabbe,

Uccle, Brussels.

Canada—Mr. W. A. Brown, Department of Agriculture, Ottawa; Professor W. R. Graham, Ontario Agricultural College, Guelph.

Cyprus—Mr. W. Bevan, Director Agricultural Education, Nicosia.

Denmark—Konsultant W. A. Kock, Vesterbrogade 892, Copenhagen.

England—Professor F. V. Theobald, M.A., Wye Court, Wye, Kent; Mr. C. E. J. Walkey, Edgborough, Staplegrove, Taunton.

France—Dr. Loisel, 6, Rue de l'École de Médecine, Paris; Mons. d'Aubusson, 66, Avenue Mozart, Paris; Mons. Pierre A. Pichot, 132, Boulevard Haussmann, Paris.

Germany—Professor A. Beeck, Crollwitz, Halleam-Salle; Director Karl Haas, Erlangen, Bayaria.

Holland—Consultant H. B. Beaufort, Ardenode-Haarlem.

India—Mr. A. C. Dobbs, B.A., Agricultural College, Pusa, Bengal.

Ireland—Mr. Jas. S. Gordon, B.Sc., 22, Upper Merrion Street, Dublin.

Italy—Signor Alfredo Vitale, Salvator Rosa, 67, Naples.

New Zealand—Mr. F. Brown, Department of Agriculture, Wellington.

Norway—Lieutenant-Colonel Thams, Christiania. Russia—Mons. B. de Gontscharoff, Sergievskaja, 56, St. Petersburg.

Scotland—Mr. Wil Brown, West of Scotland Agricultural College, Kilmarnock; Mr. A. M. Prain, Homeleigh, Errol, N.B.

South Africa—Mr. Reginald Bourlay, Poultry Experiment Station, Potchelstroom, Transvaal.

Sweden—Konsultant W. Sjostedt, Smedby.

United States of America—Professor H. Attwood,
Agricultural Experiment Station, Morgantown,
West Virginia; Professor Leon J. Cole, Wisconsin Experiment Station, Madison; Professor
L. E. Rice, Cornell University, Ithaca, N.Y.

J. E. Rice, Cornell University, Ithaca, N.Y. Wales—Mr. W. Hopkins-Jones, University of North

Wales, Bangor.

The Constitution provides that the President and Secretary shall be elected for three years, and that the Council consists of thirty members, of whom ten shall retire every three years, but be eligible for re-election.

Further information and forms of application for membership can be obtained from the President, at the above address, any Member of Council, and the Hon. Secretary, Dr. Raymond Pearl, Agricultural Experiment Station, Orono, Maine, U.S.A.

# SOME IMPRESSIONS OF THE RECENT CONFERENCE.

By C. E. J. WALKEY, A Member of the Provisional Committee.

DERHAPS the most striking matter for comment at the recent Conference, held daily at the Council Rooms of the Royal Agricultural Society of England, 16, Bedford Square, from the 18th to 24th July, was the high standard of education and thought of the delegates from the many countries represented first on the Provisional Committee, now the Council, of the newest of the great Poultry Associations of the world. No single person attended who could not be called, in some capacity or other, a leader of the poultry industry. That I myself should have been chosen to represent the Instructors of England is still, and always will be, matter of wonderment to me personally, but is explained by the fact that I am acting as Hon. Secretary of the British Association.

Looking at the names from across the sea, three men stand out above the others—B. de Gontscharoff, President of the Imperial Poultry Society of Russia, Chancellor to the Czar; Dr. Raymond Pearl, of Orono, Maine, U.S.A., and Professor Graham, of Ontario, Canada. To sit daily among the councils of such as these was in itself an education, although I am bound to admit that so bad a linguist as myself was bound to lose some part of the wisdom of Mons. de Gontscharoff. But it is not easy for an Englishman to learn languages.

The Conference will be historic, of that there can be no question, for to possess so wide-minded and brilliant a Secretary as Dr. Raymond Pearl, chief Biologist at the great State Experimental Station of Orono, a man gifted indeed beyond the common, was to make certain before anything was done that the calling together of representatives from so many countries was fraught with great results to the poultry people of the world at large, while the election of Mr. Edward Brown, Secretary of the National Poultry Organisation Society, as the first President of the International Association was an immense honour to England and the wisest move which could have been made.

London, as readers of this journal are well aware from the daily papers, gave the new Association a

great send-off. The Marchioness of Salisbury gave a reception on the evening of the 17th July at her beautiful house in Arlington Street, W.; Lord Lucas dined the members at the Carlton Hotel with such notabilities present as Sir Thomas Elliott, K.C.B., of the Board of Agriculture and Fisheries, and Sir Robert Wright of the Scottish Board of Colonel Robert Williams, M.P., Agriculture; showed us so much of the Houses of Parliament as was then possible with Parliament sitting, and gave us tea on the Terrace overlooking the Thames —a function to which all Britons look forward at some time in their lives; the Utility Poultry Club gave a dinner also at the Holborn Restaurant at which Mons. Pierre Pichot, one of the French representatives, made a most witty speech; while the proprietors of this journal lunched the members at the same place, and took them a wonderful motor car trip to Aylesbury and its duck farms, and home viâ Lord Rothschild's great poultry farm at Tring. Here tea was given to us all on behalf of Lord Rothschild by Mr. E. Richardson Carr, to which, after our 46 mile run, we did, I think, full justice, and other excursions were arranged which fell through owing to some of the delegates having to leave London immediately upon or before the conclusion of the Conference.

It was a most joyous week, but in spite of the festivities much work was done, for the members sat in solemn conclave each day from 10 a.m. till 5.30 p.m.

The most momentous work of all, perhaps, was the arranging of a World's Congress for, it is hoped, the year 1914. The members of the sub-committee to consider this were the President, Mons. de Gontscharoff (Russia), Mons. Pierre A. Pichot (France), Messrs. E. J. Dillon (Queensland) and W. Hopkins-Jones (Wales) and myself as secretary. The question of publications also took much deliberation, as did other matters which I am not as yet at liberty to mention. Indeed, everyone present entered most fully into the spirit of the whole affair and gave work without question, ungrudgingly, on behalf not of themselves as individuals, but for the countries which each had the honour to represent.

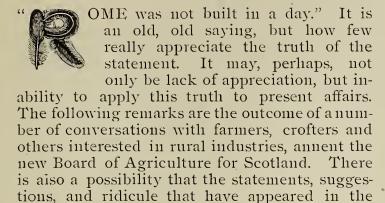
above all else were the unquestioning obedience to the President, Mr. Edward Brown; the brilliancy of Dr. Raymond Pearl; the absolute unanimity of purpose and entire friendliness of all present; the wonderful welcome accorded to us by London as a whole. Further honours may come my way, but for the rest of my life I shall look back upon this Conference of celebrities as one of the great happenings of my life, for I know that every delegate, whatever the future may bring forth, will for all time look upon each other delegate as a friend, to be helped whenever and wherever possible, counting no personal cost where members of the International Association are concerned.

the subject.

#### OUR NEW BOARD OF AGRICULTURE FOR SCOTLAND.

AN APPRECIATION.

By CARLTON HILL.



The new Board only came into being on 1st April, 1912, and yet some critics expect that already the whole aspect of agricultural affairs should have been altered. People are apt to forget that the passing of a Bill is not everything. Little do they realise the enormous amount of work that is entailed in building up a practical scheme of work, and moreover, in arranging the administrative work.

Press have something to do with my feelings on

My plea as an outsider, is give the Board time to demonstrate its utility before critising the work which it has not as yet begun. It seems hardly sporting when the Board is run down even before it has had an opportunity of showing its power for good, or its incapacity for helping on the agricultural art. In two years time the critics will be justified in having their say, but until then it seems slightly under-hand to deride a public body that has just come into existence.

My object in writing this appreciation is to try to show what opportunities are presented to the Board to aid the universal industry of poultry-keeping; to express an opinion as to the merits, or demerits of the various methods that can, and no doubt will, be used to raise the industry to the position which it, by right of its financial value, should hold. Before doing so, however, I desire to say a little generally as to the state of affairs before the creation of this new department of Agriculture.

Going back some years—exactly how many I cannot for the moment recall—we find that all agricultural education in Scotland was under the English Board of Agriculture. In my opinion a great mistake was made when this interest was handed over to the Scotch Education Department. It was undoubtedly one of those errors, the true significance of which can only be realised after a lapse of years. This to

my mind was in great part the origin of the discontent that has been brewing in agricultural circles for some few years. That it was an unsatisfactory arrangement has been fully demonstrated in the past, and this one fact alone justified an alteration in the administrative body.

Refering to England for a moment, I believe I am correct in saying that until quite a recent date, agricultural colleges came under the jurisdiction of the Board of Agriculture and county agricultural work under the Board of Education. This has now been changed, and both branches of agricultural education are to-day under the control of the Board of Agriculture.

Owing to the division in Scotland the English Board has never had fair play, in that in its section of the work it was handicapped on account of conflicting interests. For three public bodies to be responsible for different parts of the work was a hopeless state of affairs, and no wonder if all concerned were ever in a muddle. The first recommendation of the departmental committee on poultry breeding in Scotland was to the effect that complications might arise to some extent in the development of the poultryindustry in Scotland, owing to the fact that three authorities would be responsible, namely, the Congested Districts Board, the Board of Agriculture, and the Scotch Education Department, and it was considered that it would be more successful if it could be brought under the control of one central authority. This has been accomplished by the formation of the Board of Agriculture for Scotland.

Another suggestion was made by Mr. Munro Ferguson, M.P., I believe, in this connection. The solution of the problem in this case was to bring all agricultural education under the English Board of Agriculture, but to have a special branch department, located in Edinburgh, to deal with Scottish affairs. This sounds sensible, and as far as one can judge it would have stood a good chance of being successful. The proposal was not adopted, however, and the new Board is there in its place.

The Board only interests us, at the present moment, in so far as it will have a good influence on the production of poultry-products in the country. The first consideration is to endeavour to guage the ideas of those who make up this Board. Without enumerating all of the officials, and a goodly number there are, and must be, I believe it can be stated that the great majority, if not all, are keenly interested in the

welfare of this the most important of all the minor branches of agriculture. I may be permitted, perhaps, to mention two by name. Sir Robert P. Wright, the Chairman of the Board, has for some years past exerted a considerable amount of influence in the direction of the advancement of the industry. As a member of the departmental committee mentioned above, he bore a large share of the work, and later in his capacity as Principal of the West of Scotland Agricultural College, he succeeded in putting into practice at least some of the recommendations of that committee. He is a firm believer in the future of poultry-keeping, and this being the case, we may expect much from him. Another member of the committee was Mr. Alex. M. Prain, and he is now the Poultry Superintendent of the Board. He is sound in practice as in theory, and he is heart and soul in his work.

The opportunities for increased production are great. It is stated that only about one-third of the total poultry produce consumed in Scotland is home produced, and when it is further stated that the egg and poultry bill paid every year is upwards of £3,000,000, it indicates that there is room for improvement.

There are two chief methods by which the industry may be aided, namely, by the establishment of egg distributing stations, and by the work of county instructors. That the Board will work along these lines seems likely.

At the present time there are some fifty of these stations already in being, having been established by the Congested Districts Board, and from all one hears a number more will be formed this autumn. There can be no doubt but that a well-equipped egg station is a valuable asset, distributing as it does among farmers and crofters, eggs for hatching from stock superior to that found in the district. If I had the ear of the Board there are a few points I would emphasise. I would tell them that a limited number of stations, under the management of competent poultry-keepers, and stocked with firstclass fowls will be productive of better results than a larger number of inferior stations. would further tell the Board that I fully believe there is a great difficulty in securing the services of really good men and women, as managers. From what I have heard, I am led to believe that a smaller number of stations properly and adequately subsidised will have a greater influence on the success of the industry, than a larger number, the holders of which are semistarved as regards subsidy. The spending of public money is only justified in so much as the return in value of increased production warrants the initial cost. The estimate of home produced eggs and poultry is just over  $\pounds$ ,1,000,000.

Double this in value in five to ten years at a public cost of £6,000 per annum and the outlay is justified. That this can be accomplished is a belief held by many, including a number of the members of the Board.

The educational work must be in the hands of the county instructors; men or women, according to locality, who are practical experts in poultry-keeping, and travelling constantly throughout a given area will have a marked influence on the poultry-husbandry of the country. In this case the agricultural colleges must be the instruments with which the Board will work. We have heard it suggested, that very shortly the staffs of the Edinburgh and Glasgow colleges will be increased, and that a number of well qualified instructors will be appointed for this special work. The Aberdeen College has for some time past had a large staff for poultry instruction, and it is to be hoped that the two southern colleges will follow suit.

The possibilities for increased production are enormous. It is now up to the Board and the colleges to increase the number of eggs laid, and to facilitate as far as they are able the marketing of the produce. The men who have the direct control of this branch of agriculture are capable of performing the work, and the future will demonstrate their suitability.

As a firm believer in the new Board of Agriculture for Scotland, I am bound to confess one thing, namely, that in all likelihood the creation of the Board will tend to keep agriculture at a standstill for that period which is necessary for the Board to get into full working order. I hold this opinion, but at the same time I realise that laws are made not only for the present, but for future generations. In a few years we shall be reaping the benefits of the Bill that brought the Scottish Board of Agriculture into being on 1st April 1912.

#### A CHEAP LICE POWDER.

The following are directions for making and using Lawry's Lice Powder, as published in *Poultry Hus*bandry. Spread  $2\frac{1}{2}$  pounds plaster of paris in a shallow pan or tray. Pour  $\frac{1}{4}$  pint of crude carbolic acid into a cup and into this pour  $\frac{3}{4}$  pint of gasoline. Pour this mixture over the plaster of paris and mix thoroughly. Rub through wire window screen upon a piece of paper. Allow it to stand for  $1\frac{1}{2}$  to 2 hours, until thoroughly dry. Do not place near a stove. Keep powder in a closed jar. Apply by means of an ordinary sifter, or with the fingers. Brush the powder in among the feathers about the vent, fluff and under the wings. Repeat in about two weeks in extreme cases. Ordinarily this need not be repeated for six months. A small pinch of the powder is sufficient for a fowl.

## HOW I SHOULD RUN A LAYING COMPETITION.

September, 1912.

By A. T. Johnson.

HAVING had repeated requests from various sources for information regarding the possibilities of making egg-production a profitable industry, and feeling that the present method of running laying competitions, with which egg-production is now so closely concerned, is not one that can be adopted by the ordinary utility poultry-keeper with any hope of profit, I do not think any explanation need be expected from me as to the wisdom of again opening this subject. But let it be distinctly understood that in here setting forth some of my views I do not desire to

owner) does not derive the benefits which it should obtain from the hens. I am quite prepared to grant that the laying competitious have done good in general way, but most of all have they been a blessing to the specialist in laying strains. They began by creating him first of all, and concluded by making a new industry and a new market and source of livelihood. And, although I do not myself believe in excessive breeding for any object, I would not desire to see these competitions abandoned. They are interesting and instructive in many ways, but they only affect the specialist in laying strains to any appreciable extent, and are as much a part of his kit as a show is part of a fancier's life and work. Both the one and the other must win prizes so as to "sell their stuff" and keep general interest afloat.



Range of Pens at one of the Utility Poultry Club's Competitions.

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try and influence the prevailing ideas as to what laying competitions should or should not do, except in one particular, which, briefly, is this. Granted that our farmers, as a class, are the people to whom we must look for the great bulk of our egg supply, and that they are sorely in need of encouragement in the form of some convincing object-lesson as regards the profitableness of keeping laying hens, then I say that the present plan of conducting laying competitions is, so far as the general farming class is concerned, a wrong one. The competitions are wrong, from the point of view I adopt, because they cannot be run at a profit; because the hens (and indirectly their owners) do not get what they should out of the land, and because the land (and, again, its

To the farmer, however, these laying competitions only (and rightly, perhaps) warn him of the dangers of meddling with utility layers on the lines they adopt. They show him how not to run poultry for profit. It is probable that the promoters of these matches never intended that the latter should concern the farmer at all, beyond indirectly giving him the off-chance of buying line-bred layers. If so, well and good. But I maintain that the time has come when some effort should be made, either by the U.P.C. or other enterprise, so to run a laying competition, or test I prefer to call it, that farmers in general would glean directly encouraging and useful lessons therefrom. It should be carried out on the colony plan, and conducted by a farmer who

has a knowledge of poultry, and who would be able to prove to others of his calling the possibility of making layers pay. Such a competition would be an object-lesson for all whom it might concern, and I contend that it would, if properly managed, do more for our natural egg-production than all the other occupations have ever done. quite awake to all the difficulties of such a scheme, and feel that while the accuracy recorded by the trap-nest, plus the limited range, may be impossible on the colony plan, the aggregate yield of, say, 100 hens spread over forty or fifty acres for twelve months would prove to be a tolerably

In running a trial-laying competition on the colony plan, one would naturally refrain from being too ambitious. I would suggest that the number of layers entered be limited to 100, and that each competitor's flock consists of ten birds and a cock. An entrance fee of not less than 10s. or more than 20s. would be charged, and any breed, variety, or cross-breed, would be permitted. Supposing the competition to begin on October 1, all birds of the previous spring's hatching would have to be mated with an eighteenmonths-old cock, and hens in their second year to a cockerel of nine or ten months. The object in having the cocks is two-fold. In the first place, a sale of eggs for hatching could be made in the spring, and the presence of the male birds would help towards keeping each flock within its own area. The whole of the business connected with the sale of eggs would be in the hands of the manager, who would also pay for all food, and make what he could out of the competition. I would give him full control of feeding, &c., but he would be expected to publish an epitome of his system before the competition began and to issue monthly reports. Any members of a management committee would be permitted access to the farm at any time. Seeing that he would not have his own choice of layers and yet be responsiable for loss, and with the knowledge that a first year at such work is not usually so successful as succeeding years, he would be allowed one-half, or two-thirds, of the entry fees, but no other remuneration whatever beyond what he could make by the sale of eggs. Prizes and expenses connected with the loan of houses, cost of printing, and postages (other than those incurred by advertising, sittings, and marketing the eggs) would be borne by some outside fund vested in the hands of a committee.

The houses adopted for use in this competition should be moveable ones, something like the pattern used in the Street Laying Competition. The farm selected for such a test as this would have to be carefully chosen, so that at all times the hens in the various flocks would be subjected to somewhat similar climatic conditions. It should have no strongly marked natural features such as extensive woods or sheltering hills. If the

flocks were distributed as widely as circumstances permit—the houses being frequently moved from place to place, so that, during the year, each flock would occupy perhaps twenty or thirty different situations—I think a fair average quality would be the result. If it were possible to do so, I would choose a farm mostly given over to grazing for this test, for it would upset the equality between the flocks if, for example, some of them had the run of a field which was being ploughed, or if some had a better bit of the stubble than others. The site chosen for the competition would, if possible, be on one of those farms where the land is largely broken up by hedges, making the fields small—the latter, perhaps, not averaging more than six acres apiece. It would thus be much easier to keep the flocks separate, while, at the same time, they would be closer together than they ever could be in wider undivided areas. I would insist that the general work of the farm viz., grazing by cattle and growing hay—be not interfered with by the presence of the fowls. The latter would be in addition to the other stock. No special "poultryman" would be permitted; the manager would have to do most of the work himself, and train a farm hand, gardener, or other person on the spot to assist him. My reason for suggesting such a stipulation must be obvious. The competition would have to be run as closely as possible as a practical farmer would run his field layers, and as he would not be likely to keep a proper poultryman, unless the latter's whole time could be employed at the job, then the manager of this test would assume the same position by getting a reliable man as a helper whose time was, for the most part, occupied by other farm work.

Although it is generally estimated that ten fowls to the acre is a suitable number to run in field houses, it would not be wise to attempt that number in this instance, for the flocks would be too close together. But the test could be worked by allowing four or five acres to each house, and, under some circumstances, very much less, In fact, the flocks should be kept as near together as is consistent with safety, so long as not less than an acre was allowed to each. In arranging the houses, a rough map showing the route they would traverse during the year should be sketched. Each house could then be placed in the most convenient spot for moving. So as to have a doubled precaution against the evil results of adjacent flocks intermixing, I would arrange the latter as far as possible so that no two lots of Asiatics or Mediterraneans would be next each other.

A sharp lad might be employed during the first five months of the year to look out for the stray nests and see that no intermixing took place. Hens which lay away usually do so in the early morning, and they nearly always betray themselves and their nests. Therefore, I do not

think that there need be much fear of loss in this respect, and the boy, if an "extra" hand, might always be employed with other work as well for a great part of his time, so that the whole cost of his labour would not fall upon the poultry account.

I would not attempt any recording of individual scores in such a laying trial as this one. Neither would the weighing and the allotting of "points" to this egg or that be recommended. An egg should be considered an egg throughout the year, but any flocks habitually laying eggs that could not be marketed with the others should be noted. The manager could grade the produce or not, disposing of it to his best advantage so long as an accurate record was kept of each pen's yield and of the value of the same. He would also, as I have said before, have full control of the sale of sittings and advertise them as he thought best.

The suggestions which I have laid down for the management of a field test for layers are, of course, suggestions only; but I think that, however much readers may differ with me as to detail, most will admit the scheme, as a whole, to be a workable one.

#### ROTATION OF PRODUCTION.

(SEPTEMBER).

By J. W. Hurst.

#### Fowls.

The suitability of the methods adopted in pullet rearing will soon be proved—or the reverse—inasmuch as we are rapidly approaching the period when the commencement of production is generally desirable. The retardation of the more precocious birds has been recommended previously, and if growth and development have progressed under favorable conditions, normal production should begin when maturity has been attained. frequently happens, however, that pullets mature without at once beginning to lay in the natural sequence of events, in which case they will probably respond to a suitable change of diet. properly matured birds it therefore follows that towards the end of this month a more direct feeding for eggs is usually advisable, and the required result should follow in due course, provided the previous feeding has not been productive of a fat condition. For this purpose it is satisfactory to begin the day's feeding with mash, and to close it with a feed of corn. For the former, a useful mixture consists of one part each of Sussex ground oats and scalded bran, and two parts of middlings, with the addition of meat in varied proportion according to the individual circumstances. For grain feeding, oats should be fed more constantly and continuously than any other grain. The morning and evening meals are the chief ones, and if any food is given at midday it should be used as an incentive to exercise by being scattered in litter. Where the pullets are kept in confinement the scratching shed should now be brought into more methodical use. If the signs of an early commencement of laying are unduly retarded it is probable that there has been some check to growth during the rearing period. When hatching and rearing is continued for the production of a succession of table chickens, particular attention to the breeding stock is essential at this period, failure and disappointment



A Champion Brahma Hen.

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resulting from the use of eggs from out-of-condition hens; a re-arrangement of the pens, and fresh matings, being generally desirable at or about this time.

#### Ducks.

Ducks' eggs for incubation are among the requirements in the not very distant future, and their production at a desirable time and in a fertile condition depends mainly upon the continued maintenance of the stock birds in a proper condition, over-fatness being a principal hindrance, so that attention to feeding is a matter of considerable importance. Moulting has been very generally in progress for some time, but where there is any delay in this respect, steps should be taken to help the birds through by confining them in a warm shed and feeding in accordance with their especial needs at such a period. A low diet to induce moulting, and generous rations of nourishing food to assist the new growth. A useful autumn diet consists of equal parts of scalded bran, maize-meal, and cooked vegetables, with a little meat added, this for morning and evening, and at mid-day (if necessary) a sprinkle of mixed corn—wheat, oats, and a little maize if weather is bad.

#### Geese.

Pasturage has presented some difficulties because although there has been plenty of keep after the rains, many waste and high grounds—to which geese are so frequently relegated—have been rather bare. It is of course true, as observant goose breeders will know, that geese will continue to feed upon the roots of herbage after they have consumed the green tops, but to allow this is undesirable, and the birds should be removed when the grass is becoming exhausted. When geese are run on good pasture the only roots they will attack are those of noxious plants, but when they take the roots of grass it is because the pasture is poor and scanty or the ground is over-stocked. A failure to appreciate these facts has led many farmers to regard geese as necessarily harmful. If the grass is coarse or scanty, feed plenty of succulent green stuff, in addition to grain. Birds for killing at the end of the month may be finished on a mixture of equal parts of barley meal, middlings, scalded bran, and mashed potatoes. If yellowness is not objected to, maize meal may be included.

#### Turkeys.

Although there are many good flocks of wellgrown young turkeys to be seen, the recent weather changes have not been so favorable to that continued growth and development as could be desired, and in some cases a restriction of range—particularly at morning and evening—has been found advisable, It is quite true that with the "shooting of the red" the worst risks of turkey rearing are over, and that the healthy progeny of healthy stock are reckoned among hardy fowls, but with the spells of very unseasonable weather to which they have been subjected this recent part of the rearing period, unusual precautions have been necessary. It does not do to presume too far upon the characteristic measure of hardiness in any stock, and certainly not in the case of turkeys reared under the ordinary conditions of domestication. Where the range is good, the foraging conditions still suitable, and the weather reasonably good, the well-grown birds will scarcely require more in the way of feeding than a corn diet, with rations regulated to current needs.

## THE ADVENT OF THE FIRELESS BROODER.

By Joseph Pettipher.

If the number of people who have relinquished artificial rearing in consequence of lamp troubles could be chronicled, the total would be simply astounding. We all know troubles enough with lamps indoors, but with the incubator there is that advantage; whereas the brooder must perforce be chiefly an out-door machine, and whilst duly recognising the vast improvements that have been made in the construction of foster mothers with a view to minimise the dangers attendant on the use of the lamp, and admitting it to be possible that in the skilful hands of the manufacturer or inventor the danger of trouble is reduced to an infinite minimum, we must recollect that the practical working of these machines is in the hands of those who are in many cases more or less novices. Even where the manipulators are practical workers it must be borne in mind that they have many other duties during the day and can only give periodical attention. Neither do they care to be awakened in the night by a sudden gale and either have to get up to see what has happened to the lamps or else lie in sleepless fear that they may have blown out and the chicks be found starved in the morning.

On large plants where an up-to-date brooder house is a possibility, there may be very much less danger of lamps blowing out, but in this country the foster mother may be looked upon chiefly as an out-of-door machine for the comparatively small poultry keeper, and the poultry fancier who requires an out-door machine, for, apart from wind troubles there is always a danger of lamps smoking and When this happens out-doors the taking fire. danger and loss, bad enough tho' it is, is limited to the machine and its occupants, but when sheltered under some such suitable building as the amateur finds available, the risks are far greater. have been known where even horses in adjacent stables have been burned to death through the firing of a foster-lamp during the night, and much other valuable property destroyed. The most surprising thing is that we went on for so many years before anyone finally discovered a satisfactory way of dispensing with the much disliked lamp, which, even when it worked satisfactorily, was at the best the most troublesome and unpleasant part of the business. When, however, it did at last occur to the minds of men that it was possible to so conserve the heat of the body as to provide the necessary warmth without artificial aid by fire of any kind, and at the same time keep a pure atmosphere in which chickens would thrive satisfactorily, progress was rapid, and though we shall doubtless yet see many improvements in fireless brooders as time goes on, it may be said that the problem has been already solved and we have to-day knowledge and means whereby chickens can be

raised by this fireless method. It has been proved by practical poultry raisers who have adopted the fireless system and who have no personal interest whatever in the manufacture of such machines, that in a properly constructed fireless brooder the chickens do grow as well and thrive as well, and can be raised with a smaller percentage of deaths than in the lamp heated machines. I say "properly constructed" advisedly. for though at first sight, when one first looks upon a fireless brooder, one is inclined to say what a simple arrangement it is (I did so myself and have known others do the same, including one well-known maker of appliances) yet the more the question is studied, the more obvious it becomes that the more carefully constructed the machine, and the more the necessary details are worked out, the more satisfactory will be the results and the more simple the working of the system. There are doubtless many amateurs who have satisfactorily made their own fireless brooders. There is no reason why they should not do so—all the brains never were yet located in one pericraneum but the average poultry keeper requires the brooder ready for use, well made and properly constructed for the purpose, and at a reasonable price. Such appliances are now to hand, made by more than one maker, and constructed on somewhat different lines. Of these, I believe more than one has

September, 1912.

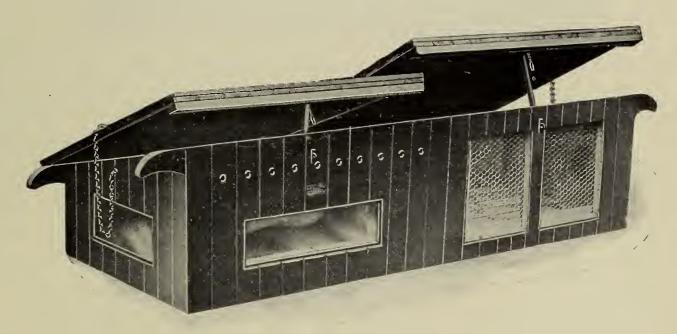
pecuniary interest whatever in anything of the kind, but having, as it so happens, had the opportunity of studying these things I write simply in the interest of those who are seeking knowledge, and who, if they start right, will be all right, but who may equally throw up the thing in disgust if they start wrong. Hence, without in any way traducing other makes I propose to tell what I know of the "Spiers" fireless brooder, of which illustrations will be found accompanying this article.

Originally invented by the man whose name it bears (Mr. C. T. Spiers, now resident at Crocketford by Dumfries), a man who has devoted practically his whole life to the study of poultry culture in its various phases on both sides the Atlantic, it is the outcome of much study owing to the determination if possible to dispense with the lamp.

Mr. Spiers spent several seasons experimenting with his invention. For an amateur he was a good carpenter, and could make and alter at his own sweet will, till he got what he wanted, and had remedied many defects which he discovered in the course of practical working, till eventually he evol-

remedied many defects which he discovered in the course of practical working, till eventually he evolved what he found met the various requirements and answered the purpose, and in this he was in the later part of the time much assisted by some other practical poultry keepers to whom he sent

machines for experiment.



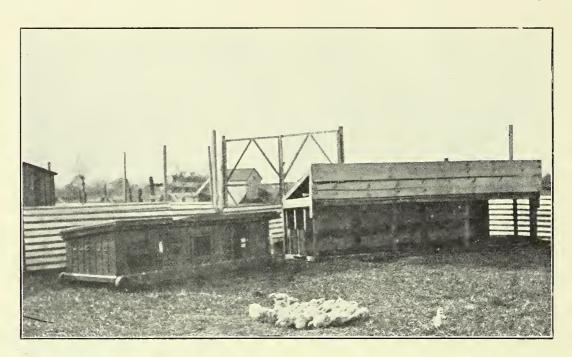
The "Up-to-date" "Spiers" Fireless Brooder.

proved to be satisfactory, but on the other hand there are some that might well be termed "engines of destruction and despair," and it is for this reason—at a time when fireless brooders are comparatively in their infancy, and so many people are just contemplating going in for one—that I trespass on the thorny path of describing what I know of the history and working of one particular make. Let it be distinctly understood that I have no personal axe to grind, and no

It may be interesting to glance for a moment at what a thoroughly practical poultry keeper says who has practised fireless brooding to a considerable extent. Mr. J. M. Blackwood, who raises large numbers of chickens on his farm at Cranhills Street, Somerset, and who has in his varied experience worked and managed as many as forty heated brooders at one time, and who, realising the advantages of the fireless system, has been trying several different types, says he is convinced

fireless brooding has come to stay. "I have at the present time two lots of 50 each in these brooders, now 14 days old, and have only lost one chick. Dampness has been one of the chief complaints with my working poultry men and this does not occur at all in the "Spiers" now that it has been re-arranged in order to obviate this trouble." Another important item which Mr. Blackwood has noted is that so far he has not lost looks upon them as of the greatest possible assistance and advantage. One of the greatest advantages is, he says, that the chicks reared in a fireless brooder are always active and on the run, and there is not the temptation to crowd into the heated chambers.

It is quite possible to convert a well-made lamp brooder into a fireless, and for this purpose the "Spiers" hovers are sold separately, but it



Mr. J. M. Blackwood's Fireless Brooder in operation at Cranhill Farm, Street, Somerset.

a chicken with unabsorbed yolk inside it, a trouble he has frequently experienced in heated brooders. He thinks probably this is due to the greater activity of the fireless reared chickens. Anyhow, it is a strong point, for as he pertinently remarks, "many people do not take the trouble to make post-mortems of chickens that die at a very early age, and consequently they are unaware of the large percentage that are lost from unabsorption of the egg yolk."

In an accompanying illustration readers will see one of Mr. Blackwood's fireless brooders in operation, and it will be noticed that there is a covered run in close proximity. This is a point Mr. Blackwood strongly advocates. All his brooders are similarly placed for the first few days of their occupants' lives—each brooder in a separate grass run, where they are under control, and at the same time are provided with a shelter to which they can resort when they choose, and when the weather is rough. This enables them always to leave the brooder at will and still find shelter in the 10ft. by 3ft. covered run, where dry earth is available. This he considers one of the most essential points to success. He has now worked these machines right through the year with success, and in wet and cold winter weather he has never had any trouble when assisted by the shelters as above described. Though he considers it possible to work without them, he must not be assumed that the fixing of this patent hover is all that is necessary; there will need to be some considerable alterations in the walls of the sleeping compartment and a re-arrangement of the ventilation and though this has been in some cases successfully done, I scarcely think it advisable in a general way, for by the time it is completed the difference in cost cannot be a large item.

Just a word about the patent hovers, which, as Mr. Blackwood rightly points out, is the chief advantage in these machines and about which he makes an amusing and at the same time apt comparison. "A chicken" he says, "under one of these hovers is like a person comfortably ensconced under the bed clothes and consequently the body heat is properly and correctly generated in a much better way and degree than in any other I have seen," and this is of course an all-important matter. The secret of successfully raising chichens without artificial heat undoubtedly lies in so conserving the bodily warmth as to make it sufficient for the requirements of the inmates, and at the same time so ventilating the rearer that all foul air is regularly and rapidly cleared away, and any dampness either from breaths or other causes is strictly avoided. These various troubles and problems have been already practically overcome and fireless brooding is rapidly becoming more

simple as well as more effectual and more popular every day.

I have not previously mentioned the economy in working because if it were an advantage no sensible rearer would grudge the cost of the lamp oil but when it is proved that it can be done without with actual advantage, it certainly does become an item where a number of brooders are as well as doing away with the most unpleasant used, part of the necessary work of artificial rearing.

#### POULTRY COOKERY.

DISHES FOR THE GROUSE SEASON.

ROAST GROUSE: Take a brace of well hung birds and pluck them carefully, as the flesh is very tender and easily torn, then wipe them well, inside and outside, with a clean soft cloth, but do not on any account wash them as so many people are inclined to do, as this, to a considerable extent, destroys the much-appreciated flavour of the birds. Cut off the heads and truss the grouse like fowls, then rub them over with a little melted beef dripping, and roast them before a clear hot fire, basting them liberally and very frequently for about half-an-hour. When done enough, serve the birds on pieces of hot buttered toast which have been arranged in readiness on a hot dish, and garnish them freely with carefully washed and pleasantly seasoned watercress. Send to table at once accompanied by good brown gravy, and bread sauce, in small hot tureens, and crisply fried bread crumbs neatly piled upon a small dish covered with a dish paper.

Note: Great care must be taken in frying the bread crumbs or they will prove anything but appetising, being soft and greasy instead of delicately crisp and quite dry.

Grouse Pie: If the birds are large, cut them up into joints, but if small, just divide them in halves, then season them pleasantly, but very lightly, so as not to spoil the natural flavour of the birds. Place some rump steak which has also been seasoned and cut up into small neat pieces, at the bottom of a pie dish, and cover these with chopped mushrooms and slices of hard boiled eggs; then put in a layer of the grouse to be followed by more mushrooms and slices of egg, and so on until the dish is sufficiently filled; moisten the whole with good well flavoured stock, cover with suitable pastry, ornament the top tastefully with leaves, stars, crescents, etc., stamped out from the odd bits of pastry, brush the surface over with beaten egg, make a small hole in the centre, and bake in a moderate oven for about an hour. When done enough, place the pie on a hot dish covered with a neatly folded napkin, and send to table accompanied by some rich creamy gravy pleasantly flavoured

with fresh lemon juice. If the pie is preferred cold, have ready some good stock sufficiently strong to form a jelly when cold, and as soon as the pie is taken from the oven, pour a little of this into it through the hole in the lid, using a tiny funnel for the purpose.

Salmi of Grouse: Prepare and roast the birds in the usual manner, but, in this case, only about three parts cook them. When quite cold cut them up into small neat joints and cover these over until required. Put all the odd bones and trimmings into a saucepan with a bunch of savoury herbs, a small piece of lemon rind, and three-quarters of a pint of brown stock, and boil very gently until all the good has been extracted, then strain off into another saucepan; add sufficient brown roux to secure a nice creamy consistency, then bring to the boil, skim carefully, and add the prepared grouse, also a tablespoonful of lemon juice and a glass of sherry. Make the whole quite hot, being most careful to avoid boiling point, then pile the grouse up neatly on a hot dish and strain the gravy over, garnish round about with sippets of nice crisp toast, or daintily fried crontons, and serve at once.

Grouse Cutlets: Split the birds in halves, take off the wing bones and tuck the legs firmly inside, then season pleasantly and fry rather quickly until well browned all over. Drain away every drop of fat and cover the grouse with brown sauce, rich both in colour and flavour, add some red currant jelly, some partially stewed mushrooms cut in pieces, and more seasonings if required and simmer very gently for ten minutes, then dish up in neat order on a bed of mashed and seasoned potatoes, and pour the sauce over. Garnish with even-sized skillfully cooked Brussels sprouts, or small balls of creamed cabbage, and serve very hot.

Quenelles of Grouse: Cut off all the meat that remains on the birds, and, after removing all the skin, gristle, etc., pound it in a mortar and rub it through a sieve. Supposing there are six ounces, add three ounces of fine bread crumbs which have been soaked in milk and well squeezed, an ounce of fresh butter, a pleasant, but light seasoning of salt, pepper, and grated nutmeg, the strained juice of a small fresh lemon and the beaten yolks of two perfectly fresh eggs. Mix all well together and just at the last add the whites of the eggs whisked to a stiff froth. When this has been lightly stirred in, divide the preparation into small pieces as equal in size as possible, and form these into the shape of eggs. When ready, drop the quenelles very gently into boiling fat and poach until firmly set and just lightly browned, then drain thoroughly, pile up tastefully on a hot dish paper, garnish freely with sprigs of crisp parsley and send to table as quickly as possible, accompanied by some pleasantly flavoured gravy or appropriate sauce in a hot tureen.

#### LIVER DISEASE IN POULTRY.

OF all diseases of poultry there is none, perhaps, which is more discussed, whenever the subject of disease comes up, than liver disease. There is none, on the other hand, that is more misrepresented, nor any more entangled in the meshes of error as it is usually presented to the poultry-keeper of average intelligence. It is not his fault that it is so. The fact is that there are two or three diseases of fowls in which the liver undergoes striking changes in form, substance, and damaged function either by itself or in conjunction with similar degenerations in other important organs.

Until comparatively recent years, indeed, one might almost say until the commencement of this century, veterinary science has given little heed to the investigation of poultry pathology, and it is only quite recently that the discoveries made in the field of human bacterial diseases have given an impetus to the more minute study of poultry Nor is it to be wondered at that veterinary practitioners find other branches of their work more remunerative. Fowls as patients rank infinitely lower than the larger farm animals, while as compared with the returns in connection with attendance on pet dogs and cats they are of no account. Hence of necessity they depart to their Nirvana unaided by veterinary art. Having occasion recently to make a railway journey, I entered a compartment, the sole occupant of which was a lady, who informed me that she was proceeding to town in order to attend the Animal Congress. Anticipating, from certain remarks, the possibility of being drawn into a discussion on vivisection, I managed to turn the conversation on to the question of the causation of the brilliant colouration of the boiled lobster. From that we passed on to the flaying of seals, the plucking of osprey plumes, and finally to cats, of which she kept a large number. One of these, I was told, had recently passed away under circumstances that involved a consultation fee of ten guineas to a veterinary specialist and an account of  $f_{3}$  10s. to the ordinary attendant. The cat was only what might be termed a common or garden cat, and possessed neither exhibition nor pedigree value.

This anecdote supplies, at any rate, one reason why fanciers have been left to label the diseases of poultry, and in many instances have labelled them inappropriately. Liver disease is a case in point, concerning the nature and definition of which poultry-keepers would probably range themselves in two different camps. One section would say that liver disease was a defined contagion, very liable to spread, dependent on pedigree, and showing, on post-mortem examination, nodules of disease not only in the liver, but also in the spleen, intestines, and other organs, and sometimes in those regions without affecting the liver at all; in short, they would apply the name to what we now know to be a bacterial disease, having no special or exclusive association with the liver, and to which the title of tuberculosis should alone be applied.

The other faction would hold, and I think more rightly, that the only diseased state worthy to be classed as liver disease should of necessity arise in, and be limited to, the liver. Hypertrophy, the true liver disease, in which enlargement is accompanied or followed by fatty degeneration, alone fulfils these conditions. Klein's enteritis, certain poisons such as phosphorus, the toxic effects of some microorganisms, and chronic heart and kidney affections may also cause inflammatory changes in the liver substance, but, like tuberculosis, they have no claim alone on that account to be classed as liver disease. At present, however, the confusion seems to be between tuberculosis and hypertrophy, and, to make matters worse, a leaflet issued by the Board of Agriculture some years ago, and I believe still in print, treats of tuberculosis and liver disease as though they were the same thing, while nearly every poultry paper contains some allusion to the contagiousness and virulence of what is termed liver disease, but is obviously intended to refer to tuberculosis. To make a clear distinction between the two is very necessary if we bear in mind that the one is hopelessly incurable, extremely liable to spread, and accounts for about 25 per cent. of all poultry dying of disease, while the other, with a mortality of about 8 per cent., is, if not too advanced, quite amenable to treatment, and in no way infectious. In all that follows, therefore, it is my intention to treat of hypertrophy (or enlargement) of the liver, its causes, symptoms, and treatment, designating it as "liver disease," and exclude from that definition all other maladies, and especially tuberculosis.

Causation.—The causes of hypertrophy of the liver are chiefly concerned with food. Feeding in excess is certainly one of them, and the change in the liver is generally preceded by sluggish movements and distension of the crop and gizzard, retention of undigested food in those organs as well as in the intestines. But a much more potent cause of liver disease lies in the feeding of fowls almost entirely or in greater part on maize and barley, and their milled products. Feeding largely on animal fat will assist, but there is something peculiarly injurious in maize. The large amount of fats and oils contained in it, the size and hardness of the outer covering, and perhaps also the frequency with which it is met with in a damaged or mouldy state, make it by far the most dangerous of grains if used continuously or in large proportion. No one who has examined a fair number of poultry that have died of disease can fail to be impressed with the numbers that come by their end through liver disease, and in nearly every bird the contents of the crop and gizzard will point to maize and barley as the staple diet.

Symptoms.—The first sign that a fowl is tending towards fatty disease of the liver is increase in weight. It is worth mentioning here that just the opposite occurs in tuberculosis, in which "going light" is an early symptom. Increase of weight and fatness persists until nearly the final stage of

disease. The comb, wattles, and face remain a bright red, or take on a dull, bluish tinge from congestion. This sign of sluggish circulation tells of full blood-vessels, and explains how it is that apoplexy so frequently supervenes at this period.

The excrement is an important symptom to note. It is generally at first semi-liquid of a dark yellow ochre colour, and evacuations are frequent. Thirst is noticeable, and a large quantity of water drunk, especially after feeding. The appetite remains good, although the bird is capricious and faddy in what it eats, with a tendency to pick and choose. The crop is seldom completely empty, even in the early morning, and, whatever else is refused, there is always a welcome for fresh green food.

If a fowl in this phase of the disease is killed or chances to die from one or other of the complications that ensue, a post-mortem examination will show a liver considerably enlarged, of a deep red colour, engorged with blood, shining and greasy, as though it had been soaked in oil, but fairly firm under the knife. The intestines are inflated as a result of flatulence and indigestion. They are laden with masses of fat; so also are the mesentery—or as is termed by butchers "the leaf"—the ovary, and the oviduct.

The next stage of the malady is distinguished by a marked accentuation of all the signs enumerated. Diarrhœa increases, the excrement being perhaps blood-stained or blackened by congealed clot; the face, comb, and wattles become a darker blue, or if jaundice supervenes they may be pale or tinged with yellow bile; more fat is laid on internally, and the liver on examination will prove to be greatly enlarged. So large may this become by the deposit of fat globules between and in the substance of its cells that on one occasion I have removed from an Orpington cock a liver that turned the scale at a pound and a half. Abdominal dropsy follows, the kidneys also undergo fatty infiltration, while the heart enlarges both from the same cause and from the strain of extra work.

This stage is seldom passed, and death usually takes place from syncope, or an accidental rupture of the softened liver. If the bird does survive it is only for a short period, during which it becomes anæmic exhausted, and thinner, but never so emaciated as does the victim of tuberculosis.

Treatment.—This disease of the liver is certainly the one and only form which has a full claim to the title "liver disease." It has no connection whatever with tuberculosis; it is nearly always the outcome of improper food or an injudicious system of feeding; it is neither hereditary nor is it incurable. The symptons, as contrasted with those of tuberculosis, admit of no excuse for confounding the two diseases, and if the differences between them were only fully realised and the proper titles alloted to each of them, there is no doubt but that the present high mortality would be reduced.

Part of the treatment consists of a plentiful allowance of green food. Nothing in this way is

better than freshly gathered dandelion leaves when procurable, for the taraxacum they contain is a valuable liver stimulant. It is not generally known that the sliced roots of the plants can be steeped in boiling water to make an infusion equally effective when the leaves are no longer obtainable. The roots should be gathered and stored in a dry box at this time of the year. The infusion is conveniently mixed with the morning soft food, and is always beneficial to birds in confinement as an occasional liver tonic.

Two or three weeks of such treatment will soon bring back health to a liver-stricken flock, but the diet will have to be carefully attended to for a much longer time or relapses will recur.

#### THE MICHAELMAS GOOSE.

HAVE just been reading Sir Walter Gilbey's recently published "Farm Stock 100 Years" Ago," and have naturally paid particular attention to the chapter devoted to poultry. The contrast between the state of the industry then and now, and the relative economic positions of the different branches of the production, is sufficiently indicated in one sentence—"geese were held the most profitable kind of poultry"! Then a single person would keep as many as 1,000 stock birds and rear as many as 7,000 goslings; then—so it is said—over a thousand persons made their living out of geese on the fenlands; then there was a Nottingham Goose Fair; and—earlier still (for he wrote it in 1722)—Daniel Defoe records the fact that in one season, from August to October, as many as 300 droves of from 500 to 1,000 birds each would cross Stratford Bridge on their way to London. Yet another witness tells how, in 1793, a single drove of over 9,000 geese passed through Chelmsford! But enough of the glories that have departed. Never will the like be seen in this or any succeeding generation.

Nowadays the tenant farmer's interest in Michaelmas is mainly confined to the fact that it is one of the periods for the payment of rent in regard to which necessity he does not place much reliance upon the profitableness of geese. Yet, even at Michaelmas, geese may be profitable stock, although in smaller proportion than in the times before our day. No longer is the goose the bird of universal choice at the time of the autumn Quarter Day, but there remains a very respectable demand among those who observe old customs—and others who are actuated by gastronomic rather than by sentimental reasons. It is, perhaps, easy to understand why the turkey has largely outed the goose from the position it once held in the end-of-the-year markets, but at Michaelmas there has been no such decided replacement of one description of fowl by another, and the only apparent explanation of the decadence of the goose as a distinctive Michaelmas

dish is the unaccountable change of taste that has taken place in the public palate. Although I have said that this is unaccountable, second thoughts suggest that it may, at any rate in part, be due to the altered conditions of life to which such large numbers of the population have become subject. When I was engaged in the strenuous occupation of practical farming there was a craving for fat bacon, the very memory of which is almost nauseous in days spent in the closer application at the desk. What is true in the case of an individual may be equally true of a people, at any rate in this connection, and the decreased taste for the oleaginous goose may bear some relation to the changed conditions of life. However that may be, it is an undeniable fact most people now prefer the "green" goose to the fattened bird of larger proportions and greater age.

For many years I have tabulated the market quotations for the various descriptions of poultry produce, making weekly and monthly averages and otherwise juggling with the figures to prove or disprove facts, as the case may be. It is, of course, commonly understood that statistics may be made to do anything relative to proof or disproof; but the following may be taken as the boiled-down results of the accumlated quotations of several years, the monthly averages having been bulked and fresh inclusive averages struck for the whole series.

The following figures will therefore sufficiently show the relative marketable average values of geese (including goslings) at the different seasons (and it must be remembered that the poulterer's seasons are nominally; geese, October to March; goslings, April to October): January, 6s. 6d.; February, 7s.; March, 8s.; April, 7s.; May, 5s. 9d.; June 5s.; July, 5s.; August, 5s.; September, 6s.; October, 5s. 6d.; November, 5s. 9d.; December, 7s. The demand and supply for geese or goslings, although—according to quotations—a continuous affair, is subject to considerable fluctuation, and the trade is largely shared by foreign birds—as in January. Very few English birds are available in February, when the hatching season commences. Birds sufficiently forward for marketing at the end of March are exceptional, hence the high level of values. Although the gosling season nominally begins in April, the trade is comparatively unimportant, and the supply available in May is seldom in danger of outweighing the demand, at any rate, at the commencement. The increasing supply of June usually coincides with a slackening demand, but spasmodic improvements are often experienced in July, whilst the withholding of a proportion for Michaelmas tends to relieve the market during August. Throughout September goslings maintain a fair value, and the reservation for the end of the month often causes a fairly good market at the beginning. October is generally a month of declining sales at relatively unremunerative rates. In November the producer has Christmas in view, and small supplies about equal the demand. In

December prices are good for the moderate numbers usually offered early in the month, and although in the Christmas market values may jump, there is always an element of uncertainty. All this is from the point of view of the producer, who see the London market from a distance, and finds that the provincial markets make no serious or general demand for this description of his produce until September—the older character of the demand still lingering in the country, a fact which perhaps tends to confirm the suggested influence of surroundings and manner of life upon the palate.

In the list of requirements in thirty-two provincial markets, as set forth in the *Journal* of the Board of Agriculture, in only one instance is an earlier demand than September mentioned—August being given as the commencement of the season in the solitary exception to the general rule.

Within the limits indicated it remains true that the Michaelmas goose may be a reasonably profitable bird, if reared suitably and marketed with discretion. There are plenty of people who hold the opinion that geese are at their best just after running on the harvest stubble. A few goslings turned into a considerable extent of stubble will in many cases require no extra feeding, but a large flock on a few acres will not sufficiently improve in condition without proportionate hand-feeding. If stubbles are not available, the birds may be allowed to continue on grass, the decreased nutritive value of the herbage at this season being compensated for by improving the character of the supplied food. In the old days when the department of the poultry industry was flourishing, to an extent that we can scarcely understand in the light of modern experience, when any special treatment was desirable the birds were very commonly fattened for market on oats and water, boiled carrots and potatoes; the fattening of geese being as distinct a branch of the industry as the fattening of chickens is now, but the work of the fattener has declined in correspondence with that of the breeder and rearer. The use of a variety of meals is advocated by presentday feeders for the purpose of preparing birds for Michaelmas, but (apart from the preferable stubbling) when running the birds on meadows, I have found nothing better than a mixture of Sussex ground oats and sharps for feeding in the early morning, the only other supplied food consisting of a suitable allowance of sound grain at night.

It is the method of some to feed the birds liberally twice daily on good sound oats, allowing them as much grain as they will eat at a meal, but in any case during the finishing month liberty should be to some extent curtailed and the birds kept off the pond—but the supply of drinking water in troughs and of suitable grit must be adequate to the requirements. Killing by dislocation of the neck is preferable to the use of the knife.

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#### FROM OUR CONTEMPORARIES.

#### Poultry-House Floors.

The most suitable floor for a poultry-house is composed of the ground itself, and whenever possible such should be employed in preference to any other material. If the field is at all damp or low-lying the interior of the house should be dug out a few inches and refilled with gravel or broken bricks, and then covered with earth, raising it three or four inches above the level of the surrounding ground. This ensures absolute dryness. If well beaten down a hard surface is obtained, upon which the litter may be placed. Wood is often used, and when it is impossible to use the ground itself it is the best material one can have. Cement is too cold, and bricks, being absorbent, retain some of the liquid part of the dung, preventing such a house smelling perfectly pure. Many forms of poultry-houses are built with a raised floor, but there are certain disadvantages to this. True, it affords the birds protection from the wind and rain, forming a kind of scratching shed, but, on the other hand, it makes the interior of the house much colder. Heat and cold are atmospheric, and thus the nearer the ground the more even the temperature, It stands to reason that a bank of cold air beneath a house is bound to reduce the temperature within very considerably.—Farm and Home.

#### Advance Scotland.

In regard to the "strong condemnation of Scotland's neglect of the egg and poultry industry" which is passed by the report of a Government Committee, we have received the following spirited lines:

> Sons of Scotia, rally round! Something's rotten in the State, And your history, once renowned, Wants—well, bringing up to date; Summon Caledonia's clansmen, With the pipers, blatant bandsmen, This disgrace you must dispel. Nip it in the bud, ab ovo (Latin: baldly, "from the shell").

> Think upon your nation's tale! Think upon your stoic past And emit a Celtic wail, For it's slipping from you fast! High falutin' re the claymore Will not make your poultry lay more Will you watch the tourist folk, Nauseated, fleeing from you, Scornful of an absent yoke?

#### ANSWERS TO CORRESPONDENTS.

#### SHORT REPLIES.

W. B. (Watford): No.

R. T. W. (Lancaster): 1899 and 1900. K. B. (Manchester): Aylesbury or Pekin.

E. L. (Berwick-on-Tweed): August, 1905. S. T. (Edmonton): See advertising pages.

E. L. (Stanmore): 1. No. 2. No. 3, Yes.

F. P. W. (Leeds): Never more than a dozen.

R. S. (Toronto, Canada): From 160 to 180.

M. R. S. E. (Longforth): a month to five weeks. L. R. T. (Eastbourne): 1. Yes. 2. Yes. 3. Yes. F. W. P. (Upper Norwood): From 12in. to 15in.

W. W. R. (Salford): May, 1909. Price 11\frac{1}{2}d., post

T. E. (Hexham): We should recommend a cross in your case.

S. T. (Enfield): See reply to "R. M. T. (Boxhill)" in this issue.

E. J. R. (Harrow): We have forwarded your letter as requested.

L. R. T. (Eastbourne): Aylesbury or Pekin, preferably the former.

J. S. L. (Upper Norwood): Probably a cross would suit your purpose better.

E. S. T. (Hanley): We are sorry we cannot give the required information.

T. L. (Hexham): The address you want will be found among our advertising pages.

E. M. G. (Carnforth): We thank you for your suggestion, and will certainly act upon it.

E. J. T. (Bexhill): "Poultry Fattening," by Edward Brown, F.L.S., price 1s. 2d., post free, from this

M. L. O. (Rochester): The Feathered World Year Book, price is. 4d., post free, from 9, Arundel Street, Strand, W.C.

M. W. G. R. (Woodbridge): 1. The Buff Orpington. 2. The Aylesbury duck. 3. Twenty-one days. 4. About £250 to £300.

W. B. B. (Muker, Yorks): The subject was fully treated in the March issue of the Illustrated Poultry Record. We shall be pleased to send you a copy for  $8\frac{1}{2}$ d.

#### Mr. Tamlin's Exports.

The following is a list of W. Tamlin's exports for July, 1912: Three 60 and three 100-egg incubators, to Mons. Andre Masson, Agent for France; two 30, also two 60, and two 100-egg incubators, to Fernand Colman, Agent for Belgium; six 60-egg incubators, also two 30 ostrich incubators, to Woodhead, Plant & Co., Agents for Cape Town, South Africa; three 100-egg incubators, to A. D. Phillips & Co., Agents for Buluwayo, Rhodesia; one 30 and one 60-egg incubator, to M. Rutherford, Queensland, Australia; two 60-egg incubators to S. T. Welsh, Straits Settlements; one 100 egg incubator, to A. Taylor, Kronstad, Orange Free State, South Africa; one 100 egg incubator, and one 100 foster mother, to T. Holker, East London, South Africa; one 60-egg incubator, to S. Thompson, West Coast Africa; one 100-egg incubator, and one 60 foster mother, to Thomas Laird, Gibraltar; one 30 ostrich incubator, to V. Travers, Cape Town, South Africa.

-Globe.

# BARGAINS

The real merit always of any bargain lies not alone in the fact of its intrinsic value at purchase, but also depends on the length of time it can be of service, and still be of good value. This is the paramount consideration in all bargains, and one of the distinguishing features that may be found in all of

# TAMLIN'S POULTRY HOUSES.

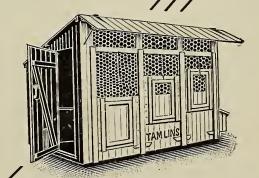
A glance at the designs, workmanship, and quality of materials used, it at once becomes apparent to the most sceptical that they are everlasting bargains. The more you investigate, the more you scrutinise, the more profoundly will you be convinced of this fact. More—these houses can be purchased carriage paid for even less money than the timber can be procured for locally by those who build their own Poultry Houses at home. Our Catalogue contains full description and illustrations of all these houses and 250 other Appliances.

Whatever your requirements might be for Poultry, in this book it can be found; a copy of which will be sent you quickly, and post free on application.

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You are not lucky if your hen does double duty for when a hen lays an egg with a double yolk, some of your relatives will die. It is unlucky to bring in eggs after dark. If your hen lays a soft-shelled egg, do not keep it, throw it over the house, and thus throw away your bad luck. To break an egg when taking it from the nest, is a sign of some unpleasant event near by. In Persia they say that if water touches eggs that are set, the chicks hatched from same will drown. If eggs have been carried over running water they will not hatch. If you want to remain lucky, don't sell eggs after sunset. In Madagascar the natives think that whoever steals an egg will become a leper.

Eggs laid during the twelve days after Christmas should be carefully preserved, for if placed under a sitting hen, they will produce beautiful, large fat chickens. If you put eggs under a hen when the wind is in the east, it will take two more days than usual for the eggs to hatch. The inhabitants of Korea state positively, that if a man finds an egg laid by a rooster, he will be fortunate ever after.

The tenth egg laid by a hen will be the largest laid by her during the year. It is unlucky to put eggs under a sitting hen before sundown, for if you do some of the chicks will be blind, so say the Arabs. Your hens will cease to lay if you bury the egg shells. If you set hens to hatch on St. Valentine's Day the eggs will rot. Set a hen to hatch while people are coming out of church, and you will have plenty of chickens. To see a hen in the act of laying brings good luck.

Here's one from Jerusalem: By tying an old tough hen to a fig-tree she will become tender. It is bad luck to kill a chicken and have it die in your hands. Fortune will come to the housewife if the brood of chickens are all roosters. If, on a rainy gloomy day, chickens try to fly on to fences, and sit on waggons, it is a sign that the next day will be fair.

Now comes a warning for lovers! If fowls fly down and strike the house where two lovers are courting, it forebodes trouble between them. The natives in Africa have an easy way to detect crime, for if a man is accused of stealing a chicken, they kill a chicken, and should the entrails be white the man is considered innocent; if yellow, guilty. If you want your chickens to have top-knots, wear a nightcap when you set your hen. Some Pennsylvania girls believe that if a big, bold rooster crows in your cellar door, it is a sign of a speedy marriage. We close with one true one—viz.: when the roosters of the world stop crowing, the end of it is at hand.—Stockkeeper.

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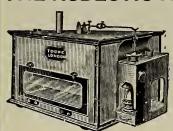
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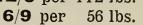
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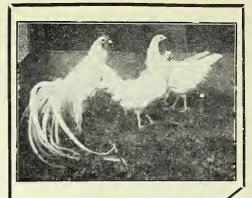
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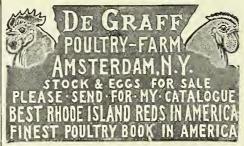
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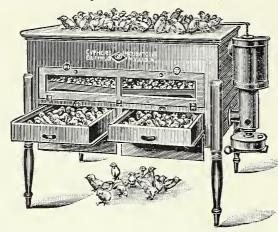
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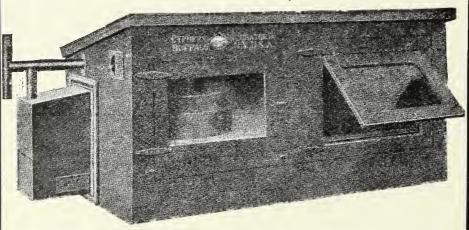


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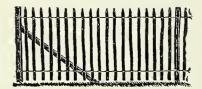
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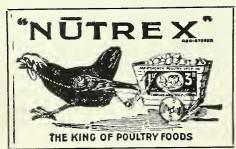
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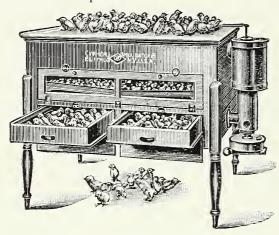
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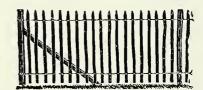
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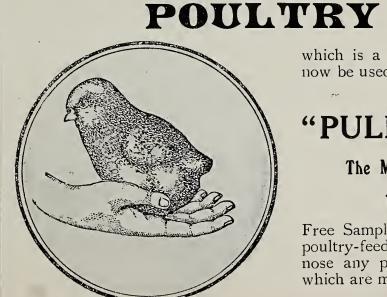
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Vol. IV.

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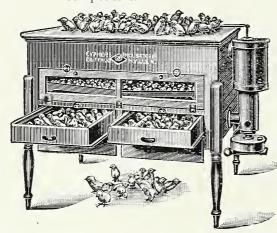
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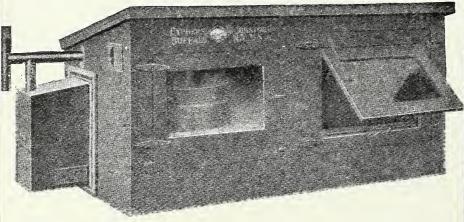


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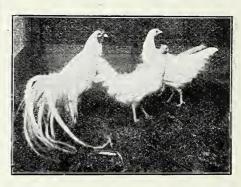
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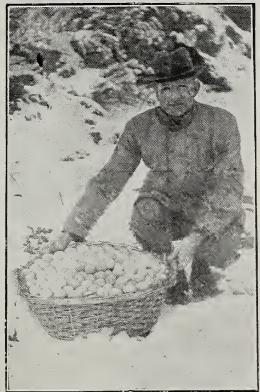
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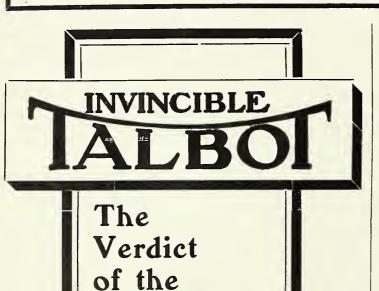
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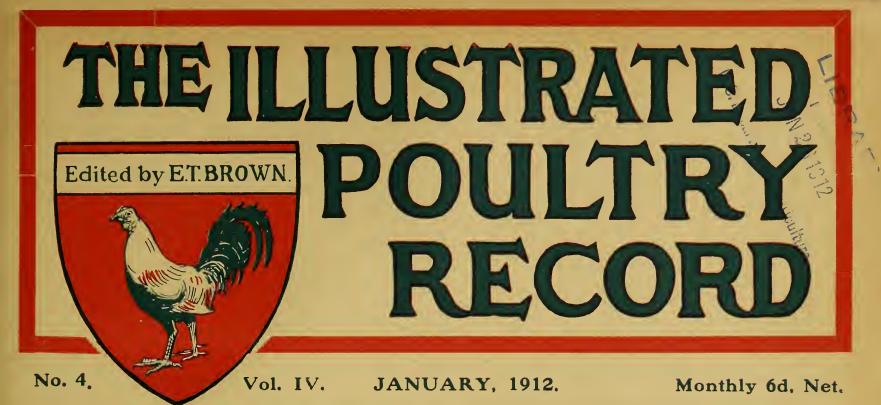
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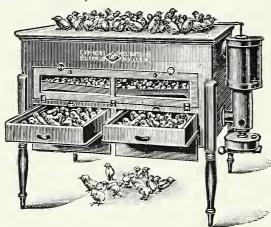
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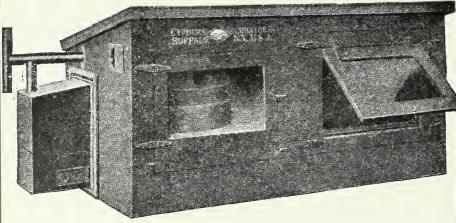


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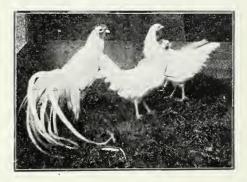
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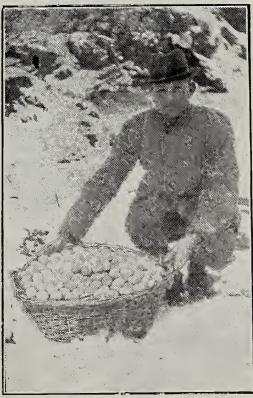
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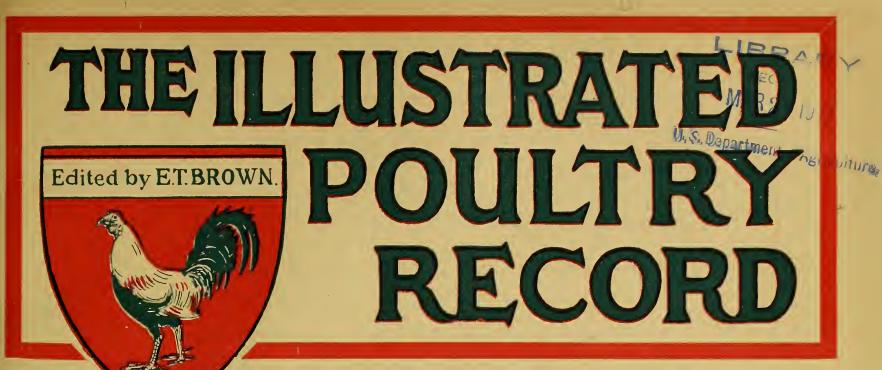
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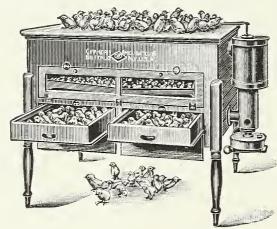
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### **CYPHERS** STANDARD INCUBATORS

The Cyphers Incubator was first placed on the American Market in 1896, and at once attracted the attention of practical poultrymen because of the ease and simplicity with which it could be operated and the remarkably good work it did in hatching chicks and ducklings. It immediately took first place in the United States and Canada as a practical hatcher, and in the succeeding years has steadily grown in the appreciation of the public until it has distanced all competitors.

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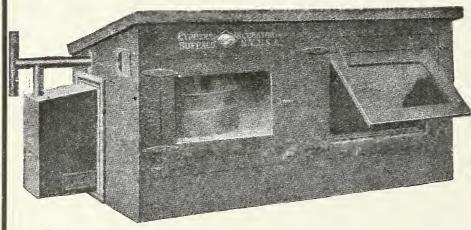


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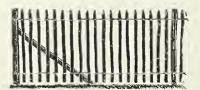


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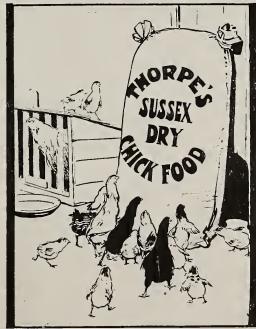
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Edited by E.T. BROWN

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Vol. IV.

APRIL, 1912.

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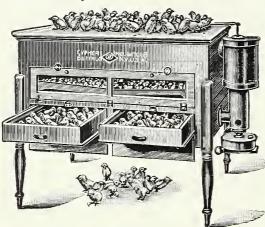
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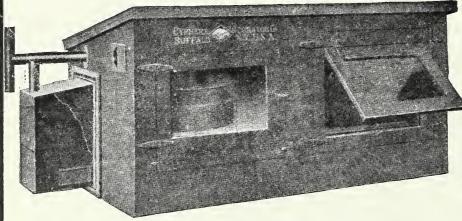


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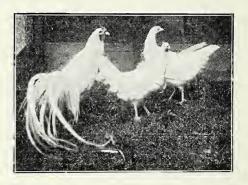
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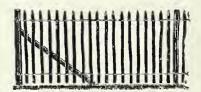


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POULTRY RECORD

No. 8. Vol. IV.

MAY, 1912.

Monthly 6d, Net.

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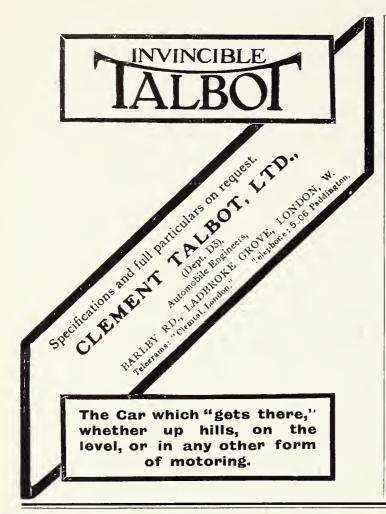
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IF you will kindly write to-day, giving us your own and your dealer's name and address, we will be pleased to send you, free, a copy of the Victoria Poultry Book, which tells you all you need to know about chicken rearing, and tells it so simply that the amateur chicken rearer can understand every word of it.

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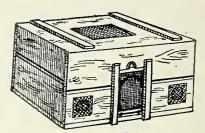
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### The "City" Patent Fireless Brooder.

This is the only Fireless Brooder on the Market to-day built on correct lines, and the only one that has given absolutely satisfactory results under all conditions and at all seasons of the year. In this Brooder the chicks nestle under a light eider-down quilt—which can be properly adjusted according to the age of the chicks—as they do under the hen; they are actually HOVERED, not put into an air-tight box or receptacle, where to a great extent they are dependent upon heat resultant from their own respiration. They haven't to remain in a vitiated atmosphere reeking with carbonic acid gas. The "City" Fireless Brooder has abundant hovering material, and is unlike the other makes so conspicuous by their absence of this necessity. There is also PERFECT VENTILATION; the chicks get fresh air the whole time they are brooded. The "City" Fireless rears the chick DIRECT FROM SHELL AND WITHOUT ARTIFICIAL HEAT WHATEVER. It is constructed with a damp-proof bottom, and is supplied to users complete.

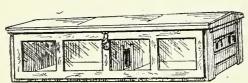
This Fireless Brooder is fully protected by Patent, and any infringement will be rigorously proceeded against.

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Price 8/6. Carriage paid to any Station in England or Wales.

### The "City" Brooder Coop.



This appliance is utilised for protecting the "City" Fireless Brooder. It is 6ft. long by 3ft. wide. Fitted with glazed front, movable central division, and built with an absolutely watertight roof. Complete with creosoted foundation frame and movable floor to run; so arranged that a damp floor at any time is an impossibility. A real home for the chick.

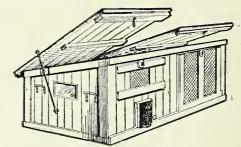
rrice 30/=. Or including the "City" Fireless Brooder 38/6. Carriage paid to any Station in England or Wales.

### The "Rising Sun" Brooder.

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Important Notice.—The Brooder is fitted with a special improved insulated lamp, complete with three burners—small, medium, and large. This ensures a positive guarantee that the Brooder can be operated at a proper and correct temperature AT ANY TIME. Moreover, one of the greatest bugbears in rearing the chick with a heated rearer—viz., A SMOKY LAMP—is dispensed with. Again, to pretend that one burner is capable of giving ample heat in midwinter, and can be reduced sufficiently in size of lamp flame to give equally good results in summertime, is absurd. Where a burner is subjected to such extremes, IM-PROPER COMBUSTION must result, and a SMOKY LAMP. The introduction of this three-burner lamp was the biggest triumph yet achieved in artificial heated rearers. The "Rising Sun" is used by all the biggest breeders in England: W. M. Bell, Esq., R. W. Webster, Esq., etc.



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This Brooder is intended for day-old chick men; as a RECEPTACLE in the first place for sending out 12 day-old chicks—or larger number, if desired—and subsequently acting as a BROODER for the successful brooding of a dozen chicks until they are fit to pass into the secondary brooder. Day-old chick men desirous of increasing their baby chick business should write me for my best terms for this article. It is the slickest thing ever introduced into English poultrydom, and will fill a long-felt want.

There are thousands of people in this country who will purchase day-old chicks when they are aware that this little brooder will brood them, and with success. The purchase of a broody hen, to say the least, is always uncertain. There is no guarantee with her such as the little "City" Baby Brooder carries, and she costs considerably more. Chickens brooded in these little Brooders grow like wildfire; every comfort is provided; there is a separate sleeping chamber, fitted up like the "City" Brooder, with circular drum and eider-down quilt, and a small run is attached, which when it requires enlarging can be appreciably increased by the addition of a Tate's Sugar Box—or other similar Box—by cutting a hole in it to emporary wire run can be added with advantage.

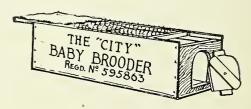
This Brooder is sold at the ridiculous price of 2/6 in any quantity under one dozen; or 3/- carriage paid. Day-old chick men requiring in quantity will be put on special terms, but must pledge themselves to maintain the standard The Brooder is fully registered and protected, and any infringement will be proceeded against.

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I ask all day-old chick men in this country to get in touch with me at once

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My matings of over 200 pens this season have produced splendid results, and both in Exhibition and Utility I am confident of having bred better birds than I have done in any previous year, this I think speaks volumes considering the great success I have met with in the past, and whether you require day old chickens, single stock birds, or a breeding pen, you can rely upon getting a result from such purchase that no other Poultry Yard can offer.

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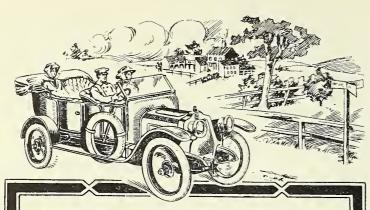
'Phone: Cray 39.

(Eldest son of the late William Cook).

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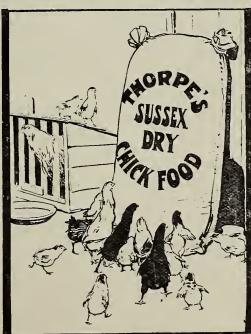
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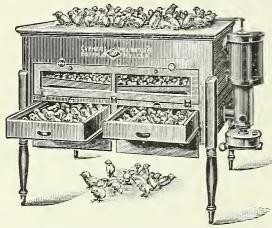
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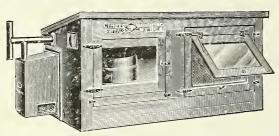
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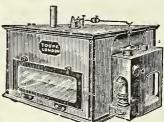
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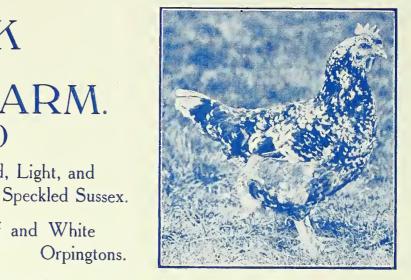
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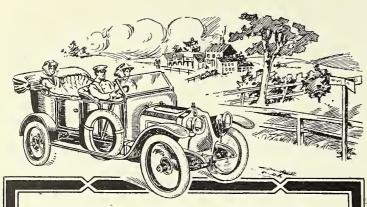
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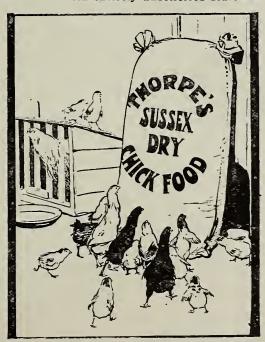
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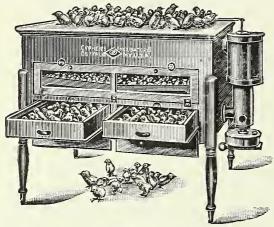
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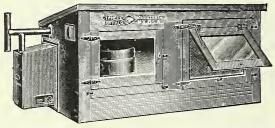
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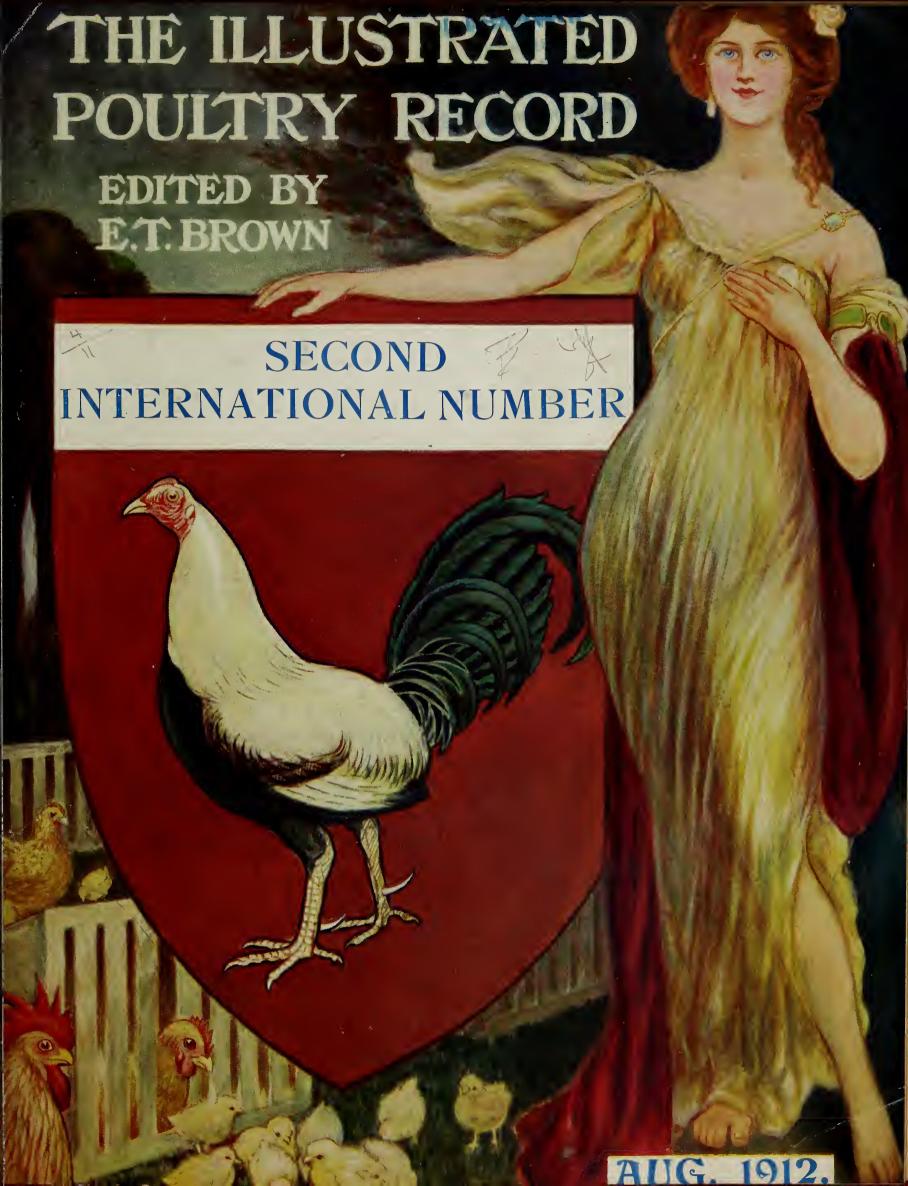
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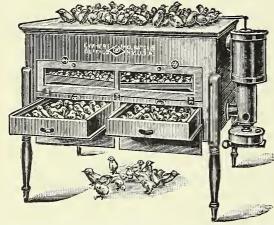
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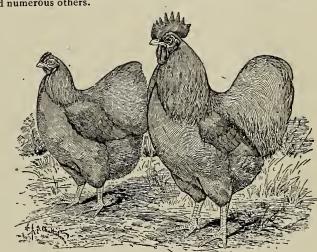
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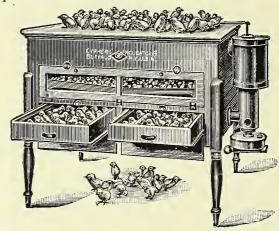
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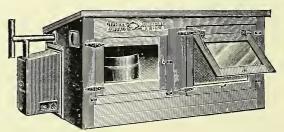
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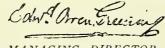


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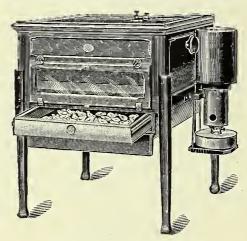
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